Petition

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No. _____

IN THE

Supreme Court of the United States

OCTOBER TERM, 1981

TOYOTA MOTOR COMPANY, LTD., TOYOTA MOTOR SALES COMPANY, LTD., and MID-EASTERN TOYOTA DISTRIBUTORS, INC.,

Petitioners,

—VS.—

GENERAL MOTORS CORPORATION,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

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QUESTIONS PRESENTED

1. Should 35 U.S.C. § 102(g) be construed in a manner that discriminates in favor of corporate "in-house" inventors, and against outside inventors, by excluding from consideration when judging the patentability of corporate "in-house" inventions, the prior inventions of other employees of the same corporation thereby judicially creating a "corporate patent" which Congress has repeatedly failed to enact?

2. Should the scope of the prior art applicable against corporate "in-house" inventors be reduced by excluding from consideration the prior inventions of their co-workers, thus materially diminishing the prior art available to show obviousness of the "in-house" invention, with the result that many "corporate patents" will be issued for trivial ideas and obvious modifications?

3. Should this Court resolve the conflict on the two questions above-stated which now exists between the United States Court of Appeals for the Sixth Circuit and the United States Court of Customs and Patent Appeals—the Sixth Circuit having held in the case at bar that the prior inventions of corporate employees are to be excluded in measuring the patentability of subsequent inventions of their co-workers; while the CCPA has held that the prior art applicable to subsequent inventions does include prior inventions of corporate co-workers?

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GENERAL MOTORS CORPORATION,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

PETITIONERS

Petitioners, Toyota Motor Company, Ltd., Toyota Motor Sales Company, Ltd. and Mid-Eastern Toyota Distributors, Inc. (hereinafter collectively referred to as "Toyota"),[1] respectfully pray that a Writ of Certiorari issue to review the judgment entered on December 3, 1981 by the United States Court of Appeals for the Sixth Circuit in its causes numbered 79-3219 and 79-3220.

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1 Other subsidiaries and affiliates of Toyota are numerous and are therefore listed in the Appendix to this Petition at p. 90a.

OPINIONS BELOW

The opinion of the Sixth Circuit Court of Appeals which is not yet reported is reprinted in the Appendix to this Petition at p. 1a. The opinion of the District Court for the Southern District of Ohio is reported at 467 F. Supp. 1142 and is reprinted in the Appendix[2] to this Petition at p. 13a.

JURISDICTION

The judgment of the Court of Appeals was entered on December 3, 1981 and this Petition for a Writ of Certiorari was filed within ninety (90) days of that date. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

CONSTITUTIONAL PROVISION AND STATUTES INVOLVED

This case involves an interpretation of the United States Constitution, Article I, Section 8, clause 8 and of Section 102(g) of the Patent Act of 1952, 35 U.S.C. § 102(g) (1976), both reprinted in the Appendix to this Petition at App., p. 79a-80a.

STATEMENT OF THE CASE

This litigation was instituted on January 26, 1976 by General Motors (hereinafter "GM") alleging infringement of United States Patent No. 3,852,041, entitled "Low Profile Catalytic Converter," issued to GM as assignee of three employees, Foster, Haggart and Moore. Jurisdiction was based on 28 U.S.C. § 1338(a).

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2 Hereinafter cited as App., p. ____.

On February 1, 1979, the District Court held claims 5-8[3] of GM's patent invalid, because the catalytic converter covered by these claims[4] was obvious in view of certain prior art. One of these items of prior art was a catalytic converter, designated by GM as its CM-714 converter, which had been developed earlier by a different group of GM employees than Foster, Haggart and Moore who were named as inventors on the patent in suit. These earlier inventors were Banyas and Jalbing. (See, GM Record of Invention Form for the CM-714 converter, DX 257, reprinted herein at App., p. 81a).

The District Court held that since Banyas and Jalbing[5] constituted a different inventive entity than Foster, Haggart and Moore, they constituted "another" within the meaning of 35 U.S.C. § 102(g). It therefore held, that the CM-714 converter (hereinafter referred to as the "Banyas converter"), which had been conceived and reduced to practice before the Foster converter, constituted prior art. This finding was consistent with the beliefs of the Foster inventors *ante litem motam* since, when they filled out GM's Record of Invention form at the time they made their alleged invention, they listed the earlier Banyas converter as the "closest prior art" known to them. (See, GM Record of Invention Form for the Foster converter, DX 270, reprinted herein at App., p. 85a).

GM did not contest the finding that claims 5-8 of the patent in suit were obvious and invalid in view of the Banyas converter and other prior art. Rather, GM appealed to the United States Court of Appeals for the Sixth Circuit solely on the ground that the Banyas converter did not constitute prior art as a matter of law because it and the Foster converter were both developed within GM. GM argued that even though the Banyas converter and the Foster converter were made by

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3 These were the only claims alleged to be infringed.

4 Designated by GM as the CM-1090 converter and hereinafter referred to as the "Foster converter".

5 See, p. 12, note 15, *infra*.

different groups of inventors, the earlier work of one group of inventors should not be held to be prior art against the later work of a second group of inventors because all of these inventors worked for GM on a single project. The United States Court of Appeals for the Sixth Circuit erroneously agreed with GM, holding that the earlier work of the Banyas inventors would not be considered to be prior art as against the later work of the Foster inventors.

This holding of the Sixth Circuit is in direct conflict with decisions of the United States Court of Customs and Patent Appeals,[6] which the Sixth Circuit misread. As developed below, the manner in which the Sixth Circuit attempted to distinguish these CCPA decisions is specifically refuted by their language. Since the Sixth Circuit's attempted distinction of these cases is in error, the conflict of its result with the result of the CCPA cases is clear.

The Sixth Circuit decision accomplishes by judicial action what Congress has repeatedly failed to do by statutory enactment, namely, establish the concept that a corporation, rather than the individuals within it, should be considered as the inventor(s) of all alleged inventions growing out of any common research project of its "in-house" employees. Whereas non-corporate inventors are charged with knowledge of all that has previously been done by those that invented before them, under the Sixth Circuit's rule, corporate inventors will not be charged with knowledge of what has previously been done by their co-workers.

If permitted to stand, this decision will enable corporations to obtain "corporate patents" which cover obvious subject matter, and are therefore broader than could be obtained by outside inventors, simply because the corporation will be permitted to lump its inventors into one amorphous group who will be judged against a less inclusive body of prior art than are

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6 *In re Bass*, 474 F.2d 1276 (C.C.P.A. 1973); *In re Land*, 368 F.2d 866 (C.C.P.A. 1966).

outside inventors. This discrimination will enable corporations to build up an arsenal of "corporate patents" covering trivial modifications of the prior inventions of their own employees which can be used to extend the corporate monopoly.

It is for these reasons, which go to the Constitutional mandate, "To promote the Progress of Science and useful Arts, by securing for limited Times to . . . *Inventors* [not corporations] the exclusive Right to their respective . . . Discoveries;" (U.S. Const. Art. I, § 8, cl. 8, emphasis added), that Toyota respectfully requests this Court to review the decision of the Sixth Circuit.

REASONS FOR GRANTING THE WRIT

I. The Sixth Circuit's Decision Establishes By Judicial Action What Congress Has Failed To Enact On Numerous Occasions—A "Corporate Patent"

Over the years, there have been many proposals introduced in Congress which would enable a corporation to apply for patents in its own name, without regard to which individuals within the corporation were the actual inventors.[7] Congress has consistently failed to enact such legislation.[8] The decision of

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7 See, S. 2255, 94th Cong., 2d Sess. (1976); S. 1308, 94th Cong., 1st Sess. (1975); S. 473, 94th Cong., 1st Sess. (1975); S. 214, 94th Cong., 1st Sess. (1975); S. 23, 94th Cong., 1st Sess. (1975); S. 4259, 93d Cong., 2d Sess. (1974); S. 2930, 93d Cong., 1st Sess. (1973); S. 2504, 93d Cong., 1st Sess. (1973); S. 1321, 93d Cong., 1st Sess. (1973); S. 643, 92d Cong., 1st Sess. (1971); S. 2756, 91st Cong., 1st Sess. (1969); S. 1569, 91st Cong., 1st Sess. (1969); S. 1246, 91st Cong., 1st Sess. (1969); S. 3892, 90th Cong., 2d Sess. (1968); S. 2597, 90th Cong., 1st Sess. (1967); S. 1691, 90th Cong., 1st Sess. (1967); S. 1042, 90th Cong., 1st Sess. (1967).

8 For a discussion of the pitfalls of the "corporate patent," See, Sears, *The Corporate Patent-Reform Or Retrogression*, 22 Vill. L. Rev. 1085 (1977), reprinted in 61 J. Pat. Off. Soc'y. 380 (1979).

the Sixth Circuit, by holding that the work of one group of inventors within a corporation will not be considered as prior art against the later work of another group of inventors within the same corporation, creates by judicial decree this "corporate patent" exception to 35 U.S.C. § 102(g) which has been repeatedly proposed in Congress but not enacted.

Under the Sixth Circuit's rationale, it does not matter who is named as inventor if they all work for the same corporation. As between different groups of inventors within the corporation, there is no need to keep track of who invented what, and when, since no inventor's or group of inventors' work can be held to be prior art to another inventor's or group of inventors' work within the same corporation. Yet, this same work can be brought up at any time by the corporation and asserted to be prior art against any outside inventor who does not work for the corporation.[9] The result is that the invention of an outside inventor is judged against one body of prior art, i.e., that which includes the prior "in-house" corporate development, while the favored corporation is judged against a less inclusive body of prior art, i.e., that which does not include the prior "in-house" corporate development. The result is anomalous.[10]

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9 35 U.S.C. § 102(g) has consistently been held to establish prior art when the two different inventive entities do not work for the same corporation. See, e.g., *Sutter Products Co.* v. *Pettibone Mulliken Corp.*, 428 F.2d 639, 645-46 (7th Cir. 1970); *Del Mar Engineering Laboratories* v. *United States*, 524 F.2d 1178, 1184 (Ct. Cl. 1975); *Full Mold Process, Inc.* v. *Central Iron Foundry Co.*, 489 F.Supp. 893, 897-900 (E.D. Mich. 1980); *Westwood Chemical, Inc.* v. *Dow Corning Corp.*, 189 U.S.P.Q. 649, 666 (E.D. Mich. 1975). Indeed, this is consistent with the holdings of this Court prior to the enactment of 35 U.S.C. § 102(g). See, *Corona Cord Tire Co.* v. *Dovan Chemical Corp.*, 276 U.S. 358 (1928).

10 Witness this case, where the alleged inventors of the Foster converter themselves identified the Banyas converter as the "closest prior art" known to them (See, App., p. 86a), but the Sixth Circuit held the Banyas converter not to be prior art.

The corporate employee who starts to invent from a plateau of actual knowledge of what those within his own corporation did before him should be charged with that knowledge at least equally, if not more so, than those in the outside world.[11] If this is not done, patents will inevitably issue to alleged inventors who did nothing more than add a minor obvious deviation to that which their corporate brethren had done before. Corporate inventors should not be given this unfair advantage of "standing on the shoulders" of their co-workers. *Potts* v. *Coe*, 140 F.2d 470 (D.C. Cir. 1944).

This case illustrates the point. Under the Sixth Circuit decision, the Banyas converter, having been invented before the Foster converter and not abandoned, suppressed or concealed, would be prior art as against anyone other than another group of GM inventors. GM concedes that the Foster converter is obvious in light of the Banyas converter. Thus, any individual or corporation other than GM trying to obtain a patent on the Foster converter would not have been able to obtain such a patent because it is obvious in light of the Banyas converter. However, GM is able to obtain a patent on this obvious modification only because its later inventors also happened to work for GM. Such discrimination in favor of corporations was not intended by Congress. The Sixth Circuit decision should not be permitted to judicially grant GM and other corporations such a "corporate patent".[12]

The end result of the Sixth Circuit decision is to place an interpretation on 35 U.S.C. § 102(g) which is at odds with the

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11 In fact, the most recent CCPA decision in this area holds that this actual knowledge of the "in-house" corporate inventors is critical to establishing that Section 102(g) applies to "in-house" corporate developments. See, *In re Clemens*, 622 F.2d 1029, 1039-40 (C.C.P.A. 1980).

12 The result is particularly repugnant here where GM had already determined that the Banyas converter was itself not patentable in view of other prior art. Thus, two unpatentable steps resulted in a patent being issued to GM because the Sixth Circuit permitted GM to lump the inventors of the two unpatentable steps together.

Constitution. Article I, Section 8, cl. 8 of the Constitution provides in part:

> To promote the Progress of Science and useful Arts, by securing for limited Times to . . . *Inventors* the exclusive Right to their respective . . . Discoveries (emphasis added).

The Constitution secures and provides rights for "Inventors," not for corporations. The Sixth Circuit decision has the effect of securing rights for corporations at the expense of individual inventors, both within and without the corporation, and ultimately at the expense of the public. As one commentator has expressed it when discussing the pitfalls of the "corporate patent":

> Pointedly, the sole inventor would be disadvantaged in relation to corporate team inventors, because all prior art would continue to apply against his patent applications. And the public would more often be defrauded of the unfettered right to use imitative technology failing to meet the constitutional criterion that patented subject matter must "promote the Progress of Science and the useful Arts." The Supreme Court predictably would not ultimately tolerate a legislative relaxation in the constitutional patentability standard, particularly one that would enlarge the ambit of patent protection available to special interests in the corporate field. (footnotes omitted) Sears, *The Corporate Patent-Reform or Retrogression, supra* at 1119.

If this Court should not tolerate a *legislative* relaxation of the Constitutional patentability standard in the form of a "corporate patent," it certainly should not tolerate a *judicial* relaxation of that standard masquerading in the guise of paying homage to the alleged "realism" of corporate research projects.

II. The Sixth Circuit's Decision Creates A Statutory Dichotomy Which Should Be Remedied By This Court

The question of whether "in-house" prior corporate developments should be treated as prior art under 35 U.S.C. § 102(g) has been a question of great concern and interest to the patent bar for a number of years.[13] Legal scholars have debated the pros and cons of this issue since *In re Bass* was decided in 1973.[14] The difference of opinion is similar to that which existed before this Court decided *Hazeltine Research, Inc.* v. *Brenner,* 382 U.S. 252 (1965) and resolved an analogous issue with regard to 35 U.S.C. § 102(e). In that case, this Court resolved the question of whether copending patent applications, as defined in § 102(e), were part of the prior art which could be considered under 35 U.S.C. § 103 as of their filing

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13 One commentator has described the Sixth Circuit's decision as:

> " . . . having major significance for corporate research labs . . . . " Bureau Nat'l. Aff., Pat. T.M. & Copyright J. No. 559, at A-1 (Dec. 17, 1981).

14 *See, e.g.,* Patent Law Perspectives, 1973 Developments, Dev. A. 3[7]-1 *et seq.;* Rosenstock, *Prior Art Under 35 U.S.C. Section 103 Includes Prior Invention—In re Bass and In re Hellsund,* 56 J. Pat. Off. Soc'y. 263 (1974); Pitlick, *A Proposed Compromise to the "Prior Art" Controversy Surrounding In re Hellsund and In re Bass,* 56 J. Pat. Off. Soc'y. 699 (1974); Klitzman, *35 U.S.C. 102(g) As Establishing Prior Art,* 58 J. Pat. Off. Soc'y. 505 (1976); Jorda, *Section 102(g) Prior Invention As Section 103 Prior Art: Impact on Corporate Research,* 58 J. Pat. Off. Soc'y. 523 (1976); Robbins, The Defense of Prior Invention—Patent Infringement Litigation (Prac. L. Inst. 1977); Janicke, *What Prior Art is "Known" to the Client?—A Suggested Investigative Approach,* 1979 Patent Law Annual 67 (Matthew Bender 1979); Janicke, *What is "Prior Art" Under Section 103? The Need for Policy Thought,* Nonobviousness—The Ultimate Condition of Patentability 5:101 (J. Witherspoon ed. Bureau Nat'l. Aff. 1980); Witherspoon, *Current Problems and Considerations Re Section 103 "Prior Art" by Reason of 35 U.S.C. 102(e), (f), and (g),* [1980] Current Developments in Patent Law 95 (Prac. L. Inst. 1980); Chism, *Prior Invention and Patentability,* 63 J. Pat. Off. Soc'y. 397 (1981); Shurn, *Is the Invention of Another Available As Prior Art? In re Bass to In re Clemens and Beyond.,* 63 J. Pat. Off. Soc'y. 516 (1981).

date, even though such applications were kept secret by the Patent Office. In holding that the body of prior art should not be restricted by excluding these applications, this Court stated:

> To adopt the result contended for by petitioners would create an area where patents are awarded for unpatentable advances in the art. We see no reason to read into § 103 a restricted definition of 'prior art' which would lower standards of patentability to such an extent that there might exist two patents where the Congress has plainly directed that there should be only one. 382 U.S. 252, 256 (1965)

The Sixth Circuit decision, by eliminating earlier corporate "in-house" developments from the body of prior art, has the same deleterious effect of restricting the content of the prior art. This Court, which has never had occasion to consider 35 U.S.C. § 102(g), should take this opportunity to clarify the law with regard to 35 U.S.C. § 102(g), as it did with 35 U.S.C. § 102(e) in 1965.

This is particularly true since the Sixth Circuit's decision leads to the incongruous result that the same word, "another," appearing in both 35 U.S.C. § 102(e) and § 102(g), receives different interpretations. 35 U.S.C. §§ 102(e) and 102(g) respectively state that:

> A person shall be entitled to a patent unless—
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> * * *
>
> (e) the invention was described in a patent granted on an application for patent by *another* filed in the United States before the invention thereof by the applicant for patent . . . .
>
> * * *
>
> (g) before the applicant's invention thereof the invention was made in this country by *another* who had not abandoned, suppressed, or concealed it . . . . (emphasis added).

The "another" referred to in 35 U.S.C. § 102(e) has consistently been held to include patent applications by different groups of inventors within the same corporation. *In re Land,* 368 F.2d 866 (C.C.P.A. 1966); *In re Fong,* 378 F.2d 977 (C.C.P.A. 1967). Yet, under the Sixth Circuit decision, the word "another" appearing in 35 U.S.C. § 102(g) is deemed not to include prior inventions by inventors working within the same corporation. This leads to the incongruous result that the prior art applicable against inventors of a corporation will include the prior "in-house" work of other corporate inventors if the corporation files a patent application on that work, but the prior art applicable against the corporate inventors will not include this same prior work if the corporation chooses not to file a patent application. Yet, this work can be asserted as prior art against third parties under 35 U.S.C. § 102(g) even if the corporation does not file a patent application. This enables a corporation to control the content of the prior art applicable against its own and outside inventors based on its decisions as to whether or not to file patent applications. No such power is given to outside inventors, whose work is prior art as against each other under 35 U.S.C. § 102(g) whether they file or not. Congress clearly did not intend these incongruities which the Sixth Circuit's decision imposes on coordinate sections of the same statute. It is in the public interest that this dichotomy be resolved.

III. The Decision of the Sixth Circuit Is In Direct Conflict With Decisions of the United States Court of Customs and Patent Appeals

The decision of the Sixth Circuit conflicts with the interpretation of 35 U.S.C. § 102(g) which has been established by the United States Court of Customs and Patent Appeals in dealing with the prior art status of corporate "in-house" developments.

A. The Court of Customs and Patent Appeals Decisions

In *In re Bass,* 474 F.2d 1276 (C.C.P.A. 1973), the CCPA decided that for the purpose of determining obviousness under 35 U.S.C. § 103 part of the prior art to be consulted was the prior inventions of "another" as defined in 35 U.S.C. § 102(g). In *Bass,* the joint invention under consideration had been conceived by three corporate employees, Bass, Horvat and Jenkins. As part of the same research project, within the same corporation, employee Jenkins, had earlier conceived an invention which, when combined with other prior art, allegedly made the joint invention of Bass, Horvat and Jenkins obvious under 35 U.S.C. § 103. The question before the *Bass* Court was whether Jenkins' earlier work was prior art to the later work of Bass, Horvat and Jenkins pursuant to 35 U.S.C. § 102(g). Relying on other CCPA decisions such as *In re Land,* 368 F.2d 866 (C.C.P.A. 1966), the *Bass* Court held that Jenkins was "another" as against Bass, Horvat and Jenkins, even though their alleged inventions grew out of work for their common corporate employer on the same research project. Thus, pursuant to 35 U.S.C. § 102(g), Jenkins' invention, which had been made before the joint invention of Bass, Horvat and Jenkins, was held to qualify as prior art with respect to the later joint invention.

B. The Sixth Circuit Decision

Here, on virtually identical facts, the Sixth Circuit has reached a directly contrary result. Banyas and Jalbing[15] conceived and reduced the Banyas converter to practice before Foster, Haggart and Moore conceived and reduced the Foster

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15 The District Court found that Moore, through an earlier sketch, had contributed to the Banyas converter and thus also considered Moore as a joint inventor of the Banyas converter. Whether or not Moore is considered as a joint inventor is irrelevant, since even if he is so considered, the inventive entity of Banyas, Jalbing and Moore is still a different inventive entity from Foster, Haggart and Moore. For example, the fact that Jenkins was common to both inventive entities did not affect the result in *Bass.*

converter to practice. Thus, there is clearly an invention (the Banyas converter), made in this country, by another (Banyas and Jalbing), who had not abandoned, suppressed or concealed it. Yet, the Sixth Circuit ignored 35 U.S.C. § 102(g) and held that, since all the inventors were working on a common research project for GM, the earlier Banyas converter would not be considered prior art as against the later Foster converter.

C. The Sixth Circuit's Erroneous Attempted Distinction of *In re Bass* and *In re Land*

The Sixth Circuit, realizing that its decision was in conflict with the decisions of the CCPA, attempted to distinguish those cases. At page 5 of its opinion (App., p. 5a), the Sixth Circuit stated:

> Toyota's argument that the prior in-house development must be considered disabling prior art is based largely on *Application of Land,* 368 F.2d 866, 881 (C.C.P.A. 1966), and *Application of Bass,* 474 F.2d 1276, 1288 (C.C.P.A. 1973), where prior sole inventions of one joint inventor were held to be prior art to the later joint inventions. *Neither Land nor Bass indicates that the prior inventions were in any way the product of concerted effort within a business entity.* (emphasis added)

This attempted distinction of *Land* and *Bass* is mistaken. In *Land* and *Bass,* both the prior invention and the later invention grew out of common research projects within the same business entity. In *Land,* the business entity was the Polaroid Corporation and the Court noted that:

> [W]e are dealing with inventors who worked closely together for their common assignee, Polaroid, ... The application [the alleged invention] and the reference patents [the prior art] all flowed from the same research out of the same laboratory . . . . 368 F.2d 866, 878 (C.C.P.A. 1966)

Similarly, in *Bass* all the alleged inventors were working together on a common project for the same business entity. In fact, the corporate assignee in that case argued, as did GM in the Sixth Circuit, that this fact should preclude the earlier work from being considered as prior art. As the *Bass* Court noted:

> [A]ppellants argue that they [the earlier work of Jenkins] are not proper references "since applicants [Bass, Horvat and Jenkins] were working together on a common project . . . . " 474 F.2d 1276, 1283 (C.C.P.A. 1973).

Of course, the *Bass* Court did not adopt this argument. Thus, the Sixth Circuit's attempted distinction of *Bass* and *Land* is based on its erroneous reading of those cases which led it to render a decision which is in direct conflict with those decisions.

D. The Sixth Circuit Ignored the Appropriate Statute

It is significant that the Sixth Circuit eliminated the Banyas converter from the body of prior art without reference to the statute which defines that art, 35 U.S.C. § 102(g).[16] At page 7 of its opinion (App., p. 7a), the Sixth Circuit stated:

> Toyota has argued against an expansive definition of "joint invention" in the context of corporate in-house developments, stating that such a reading would bring an "elasticity" to statutory patent law that Congress did not put there. There are two answers to this argument: first, 35 U.S.C. § 103, the statutory ground for invalidating the patent in suit, is but a codification of prior judicial practice. *Graham, supra,* 383 U.S. at 3-4. ***In such circumstances, it would be mindless to reach irrational or inequitable results out of supposed fidelity to statutory language.*** (emphasis added).

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16 On the other hand, the District Court made a thorough analysis of 35 U.S.C. § 102(g) in finding that the Banyas converter did qualify as prior art. See, 467 F. Supp. 1159-68, App., p. 32a-52a.

In arguing that the Sixth Circuit's result would bring an "elasticity" to statutory patent law which Congress did not intend, Toyota was talking about 35 U.S.C. § 102(g), not § 103. Had the Sixth Circuit considered the correct statute, it would have realized that "fidelity to statutory language" not only is "rational" but is necessary to avoid discriminatory treatment as between corporate and outside inventors. In this regard, the Sixth Circuit is again in conflict with the United States Court of Customs and Patent Appeals. In *In re Fong*, 378 F.2d 977, 980 (C.C.P.A. 1967), the CCPA explained why it exhibited "fidelity to statutory language" in interpreting the word "another" in the similar context of 35 U.S.C. § 102(e):[17]

> Appellants would have us carve out an exception to 35 U.S.C. § 102(e) in the guise of interpreting "to another." They recognize that in In re Land, supra, we decided that Land, as sole inventor, and Rogers, as sole inventor, were each "another" to Land and Rogers as joint inventors, despite the common ownership and copendency of the reference patents and application on appeal. They ask us to overrule that case because it fails to take into account modern research techniques in which groups rather than individuals make inventions. Appellants argue that the disclosure of these inventions can only be delayed by a system which makes available the patents issued to one part of a group as prior art against the applications of another part.
>
> Appellants' argument is not without some basis. *However, it predicates an elasticity of the statute which we do not find. We are not dealing here with the judicially developed aspects of the law of double patenting, as appellants would have us assume, but with the legislatively declared content of the "prior art."* We decline to overrule In re Land, supra, and hold that the Miller et al patent was properly cited as prior art against appellants' application. (footnotes omitted) (emphasis added).

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17 See pp. 9-11, *supra*.

Thus, the CCPA, when faced with the very same arguments which GM presented to the Sixth Circuit, reached the opposite result because it felt it was bound to do so by the "legislatively declared content of the prior art." The Sixth Circuit, on the other hand, ignored the statute and in so doing rendered a decision which not only conflicts with the CCPA decisions but with the statutory language itself. This Court should resolve that conflict.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that this Petition for a Writ of Certiorari to review the decision of this United States Court of Appeals for the Sixth Circuit should be granted.

Respectfully submitted,

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Appendix

Opinion and Judgment of the United States Court of Appeals for the Sixth Circuit

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

Nos. 79-3219, 79-3220

GENERAL MOTORS CORPORATION,

Plaintiff-Appellant-Cross-Appellee,

—v.—

TOYOTA MOTOR COMPANY, LTD., TOYOTA MOTOR SALES COMPANY, LTD., and MID-EASTERN TOYOTA DISTRIBUTORS, INC.,

Defendants-Appellees-Cross-Appellants.

APPEAL from the United States District Court for the Southern District of Ohio.

Decided and Filed December 3, 1981

Before: WEICK and ENGEL, Circuit Judges, and PECK, Senior Circuit Judge.

PECK, Senior Circuit Judge. The primary issue on appeal is the correctness of the trial court's conclusion that claims five through eight of General Motors' patent on a type of catalytic converter are invalid, under 35 U.S.C. § 103, for obviousness.

General Motors (GM) sued Toyota alleging infringement of U.S. Patent number 3,852,041 ("the '041 patent"). Toyota counterclaimed that the patent was invalid and sought a declaration of that invalidity, as well as attorneys' fees. The

district court's pretrial order limited triable issues of infringement to claims five through eight of the patent in suit. As noted, the district court found these claims to be obvious in light of prior art. *See General Motors Corp.* v. *Toyota Motor Co., Ltd.*, 467 F.Supp. 1142, 1177 (S.D. Ohio 1979).

The district court's findings of fact have been published and need not be recapitulated here. It is enough to note that GM, through three named inventors, patented an efficient catalytic converter with a basic configuration shown in the appendix to this opinion. GM contends that this converter meets the harsh requirements of heating rapidly to the 250° F temperature needed for catalyst efficiency, while remaining undamaged by the much higher temperatures (over 1500° F) to which a converter is sometimes exposed. Further, the converter is purportedly inexpensive to produce, does not allow exhaust fumes to bypass the cleansing catalyst, and does not leak exhaust gases to the atmosphere.

There are three legal requisites to a valid patent: utility, novelty, and non-obviousness. The utility of an effective catalytic converter is not questioned in this case. The district court concluded, and we agree, that the patented device was novel. See 467 F. Supp. at 1170. If the district court erred in concluding that the patent in suit is obvious, then the patent is valid.

In patent litigation, separating matters of fact from matters of law for purposes of appellate review is about as easy as unscrambling eggs. Concerning conclusions of obviousness under § 103, the Supreme Court has written that

> While the ultimate question of patent validity is one of law, *A. & P. Tea Co.* v. *Supermarket Corp., supra*, at 155, the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences

> between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

Graham v. *John Deere Co.*, 383 U.S. 1, 17-18 (1966).

This Court has interpreted this language to mean that the "several basic factual inquiries" are subject to the "clearly erroneous" standard of review of Fed. R. Civ. Pro. 52(a), while the ultimate conclusion of obviousness is one of law, with which this Court may freely disagree if the facts as found or the law as applied do not support the legal conclusion reached by the trial court. *American Seating Co.* v. v. *National Seating Co.*, 586 F.2d 611, 619 (6th Cir. 1978), *cert. denied*, 441 U.S. 907 (1979); *Reynolds Metals Co.* v. *Acorn Bldg. Components, Inc.*, 548 F.2d 155, 161 (6th Cir. 1977); *Philips Indus., Inc.* v. *State Stove & Mfg. Co.*, 522 F.2d 1137, 1139 (6th Cir. 1975); *Kolene Corp.* v. *Motor City Metal Treating, Inc.*, 440 F.2d 77, 81 (6th Cir.), *cert. denied*, 404 U.S. 886 (1971). *See Universal Electric Co.* v. *A. O. Smith Corp.*, No. 79-1342, slip op. at 10 (6th Cir. March 9, 1981). *But see Smith* v. *Acme General Corp.*, 614 F.2d 1086, 1092 (6th Cir. 1980), which might be interpreted as implying that district courts' conclusions on obviousness of inventions must be affirmed if the courts' preliminary fact-findings are not clearly erroneous. We disapprove such a reading.

The district court, after making the factual inquiries noted in *Graham*, concluded "that a person of ordinary skill in the art would have been induced by his penchant for streamlining to apply the teachings of British [patent number 632,013]

to the CM-714 and make the top retainer plate of the CM-714 identical to the bottom retainer plate." 467 F. Supp. at 1175. From this the district court concluded that the disputed claims of the patent in suit were invalid for obviousness. *Id.* at 1176-77.

The difficult questions on appeal concern the propriety of considering the CM-714, a catalytic converter developed "in-house" at GM, to be disabling prior art. Although the matter of the "scope and content" of prior art is, under *Graham*, a factual inquiry, what may properly be considered prior art must in part be a question of law when issues of joint invention are raised. The district court took cognizance of this when it noted the following rules of law:

> If several persons collaborate to produce a joint invention, the conceptions and inventions of one of them will be assimilated into the joint invention only if those conceptions and inventions were generated by the collaborative effort which produced the joint invention. Therefore a conception or invention which is developed by a joint inventor before commencement of the collaborative effort never can be treated as the conception of a joint invention or as a joint invention because it is not the result of a collaborative effort to produce a joint invention. However, if the prior conception or invention is modified as a reult of a collaborative effort, the modified conception or invention may become the conception of a joint invention or a joint invention.

467 F. Supp. at 1162-63 (footnotes omitted). It is this last sentence that best states the law of joint invention in this Circuit. *See Vrooman* v. *Penhollow*, 179 F. 296, 308 (6th Cir. 1910).

The patented converter was developed at GM by at least three stages:

STAGE	"INVENTORS" AS FOUND BY TRIAL COURT
CM-474 sketch	Moore
CM-714	Banyas, Jalbing, [Moore][1]
'014 patent	Moore, Foster, Haggart (patentees)

On appeal, GM argues, in essence, that there was only one invention, the patented converter, and that the two earlier steps in its development should be seen as merging into the final product. Put another way, GM contends that the patented converter is a "joint invention" of most or all of the above GM employees, and that an intermediate step by a subset of this inventive group should not be considered disabling prior art. Toyota argues that the three steps are discrete inventions because the first two steps did not result from the collaboration of the patentees.

GM's argument has the virtue of realism – it provides an accurate description of the manner of the patented converter's invention. The '041 converter's creation was not at the hands of lone-eagle inventors who occasionally flocked together to exchange ideas, but was the product of a concerted effort underwritten and directed by GM.

Toyota's argument that the prior in-house development must be considered disabling prior art is based largely on *Application of Land*, 368 F.2d 866, 881 (C.C.P.A. 1966), and *Application of Bass*, 474 F.2d 1276, 1288 (C.C.P.A. 1973), where prior sole inventions of one joint inventor were held to be prior art to the later joint inventions. Neither *Land* nor *Bass* indicates that the prior inventions were in any way the product of concerted effort within a business entity.

[1] The district court found that the CM-714 was conceived solely by Banyas and Jalbing, two GM employees, but that Moore, another GM employee, "also should be given some credit for the CM-714 converter since it was derived from the CM-474 sketch." Thus, Moore participated at least indirectly in all three steps.

Under the facts of this case, where numerous "inventors" all worked under the aegis of one employer toward a common goal, it is appropriate to define the concept of joint invention broadly. It is not realistic to require in such circumstances that joint inventors work side-by-side, and that each step in the inventive process be taken by all the firm's collaborators. *Cf. Hobbs* v. *United States Atomic Energy Commission*, 451 F.2d 849, 865 (5th Cir. 1971) (per Wisdom, J.):

> Persons employed, as much as employers, are entitled to their own independent inventions, but where the employer has conceived the plan of an invention and is engaged in experiments to perfect it, no suggestions from an *employe*, not amounting to a new method or arrangement, which, in itself is a complete invention, is sufficient to deprive the employer of the exclusive property in the perfected improvement. But where the suggestions go to make up a complete and perfect machine, embracing the substance of all that is embodied in the patent subsequently issued to the party to whom the suggestions were made, the patent is invalid, because the real invention or discovery belonged to another.

For the reasons outlined above, the CM-714 should not be seen as a "complete invention" sufficient to deprive the named inventors (or GM as their assignee) of the "exclusive property in the perfected improvement."

Toyota's response to GM's joint invention arguments amounts to no more than raising as a defense to GM's infringement allegation the non-joinder of Banyas and Jalbing as coinventors in the patent application. Such defenses are highly technical; courts disfavor these defenses on the strength of the legal presumption that the inventors named in a patent are the true ones. *See Jamesbury Corp.* v. *United States*, 518 F.2d 1384, 1395 (Ct. Cl. 1975); *Garrett Corp.* v. *United States*, 422 F.2d 874, 880-81 (Ct. Cl.), *cert. denied*, 400 U.S. 951 (1970); *Shields* v. *Halliburton Co.*, 493 F.

Supp. 1376, 1385 (W.D. La. 1980). This presumption is only overcome by clear and convincing evidence. *Garrett, supra*, 422 F.2d at 880-81; *Shields, supra*, 493 F. Supp. at 1385. Toyota has not produced clear and convincing evidence that the contributions of the unnamed "inventors" were any more than improvements on Moore's concept.[2]

Toyota has argued against an expansive definition of "joint invention" in the context of corporate in-house developments, stating that such a reading would bring an "elasticity" to statutory patent law that Congress did not put there. There are two answers to this argument: first, 35 U.S.C. § 103, the statutory ground for invalidating the patent in suit, is but a codification of prior judicial practice. *Graham, supra*, 383 U.S. at 3-4. In such circumstances, it would be mindless to reach irrational or inequitable results out of supposed fidelity to statutory language. Second, § 103 ends with the sentence "[p]atentability shall not be negatived by the manner in which the invention was made." Toyota would have us create extra barriers to the patenting of "in-house" developments.

An alternative ground for holding claims five through eight of GM's patent valid is that the district court erred in holding that GM's sales of the CM-714 were beyond the "experimental use" exception to the rule that sale of an invention is public disclosure of that invention. Certainly the CM-714 cannot be said to have rendered the patented converter obvious if the CM-714 was effectively disclosed only to the coinventors of the patent.

The district court found that GM's sales of the CM-714 converter to International Harvester and to American Motors were under the condition that the sales were made primarily for experimental use. 467 F. Supp. at 1166-67. But the trial

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[2] The district court found that Toyota had produced clear and convincing evidence of the patented converter's obviousness, but the court did so only by erroneously considering the CM-714 prior art. See 467 F. Supp. at 1175-77.

court also found that the experiments conducted by International Harvester "concerned converter emission performance, converter placement, and cooling loop routing," rather than catalyst housing durability, a problem that the patented invention purports to solve. This overlooks the return of converters to GM by International Harvester for GM to determine how well the converters held up.[3] The district court did not find that GM's sales were for other than experimental purposes, but, we believe, too narrowly limited the experimental purposes that may fit the "experimental use" exception. GM has carried its burden of proving that the CM-714's sold were "substantially used for experimentation or testing purposes." *Dunlop Co. Ltd.* v. *Kelsey-Hayes Co.*, 484 F.2d 407, 413-14 (6th Cir. 1973), *cert. denied*, 415 U.S. 917 (1974) (*quoting F.M.C. Corp.* v. *F. E. Myers & Bro. Co.*, 384 F.2d 4, 10 (6th Cir. 1967), *cert denied*, 390 U.S. 988 (1968)). For this reason also, we hold that the trial court erred in classing the CM-714 as disabling prior art.[4]

In drawing its conclusion that the '041 patent was invalid for obviousness, the district court adverted not only to the CM-714 as prior art, but also to the British '013 patent. The court, however, found that British '013, a patented muffler, rendered GM's patented converter obvious only when the '013's teachings were applied to the CM-714. Since the CM-714 was improperly classed as prior art, the British '013 does not itself render the patented invention obvious.

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[3] GM agents asked International Harvester not to expose the converters to temperatures over 1500° F; this limit was in fact inadvertently exceeded. Exhibit 43 at H00040. Although Toyota makes much of mention of converter durability at temperatures "up to about 1600° F" in the patent application, none of the claims at issue mentions this figure. In any event, this 6% deviation does not change GM's purpose in making the sales — to acquire information relevant to the invention from the buyers' testing.

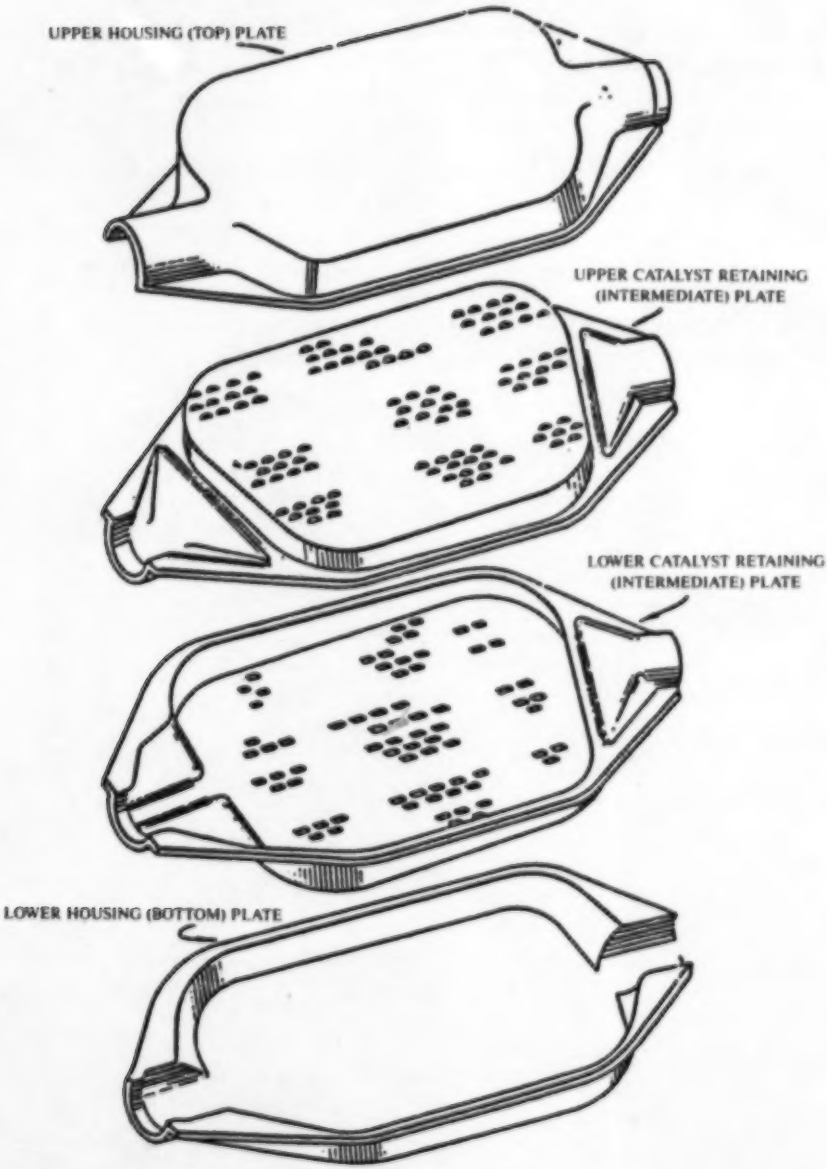
[4] The district court also found that GM touted the CM-714 on Detroit television and before an American Petroleum Institute meeting. The court did not find this to be a legally significant disclosure, nor did it find that technical details of the CM-714 were disclosed.

For these reasons, GM's failure to list the CM-714 and the British '013 as prior art in its patent application does not present the "exceptional circumstances" allowing an award of attorneys' fees under 35 U.S.C. § 285. The district court did not abuse its discretion in refusing to grant attorneys' fees to Toyota.

The trial court's judgment holding claims four through eight of the patent in suit invalid is reversed, and the case remanded for trial of the question of infringement. The district court's judgment refusing attorneys' fees to Toyota is affirmed.

No costs to be taxed in this Court; each party shall bear its own costs on appeal.

APPENDIX

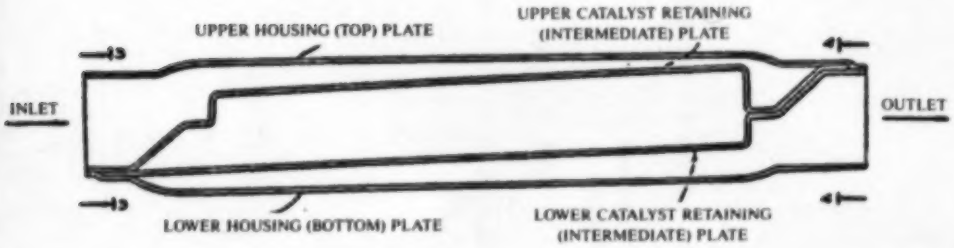


RELEVANT ELEMENTS OF PATENTED CONVERTER

APPENDIX – Continued

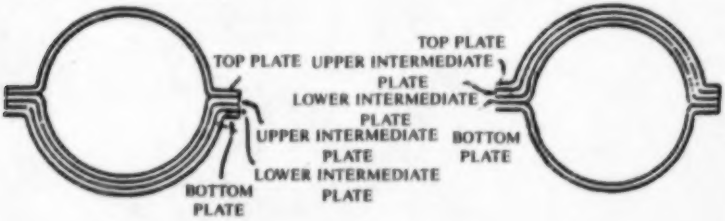
PLAN VIEW

CROSS-SECTION ON 2-2



INLET END ON 3-3

OUTLET END ON 4-4



RELEVANT ELEMENTS OF PATENTED CONVERTER

APPENDIX — Continued

RELEVANT ELEMENTS OF PATENTED CONVERTER

Opinion, Findings of Fact, and Conclusions of Law of the United States District Court for the Southern District of Ohio

UNITED STATES DISTRICT COURT
S. D. OHIO, W. D.

Civ. No. C-3-76-28

Feb. 1, 1979

As Amended May 18, 1979

GENERAL MOTORS CORPORATION,

Plaintiff,

—v.—

TOYOTA MOTOR COMPANY, LTD., *et al.*,

Defendants.

George E. Frost, General Motors Corp., Detroit, Mich., Gilbert N. Henderson, Biebel, French & Nauman, Dayton, Ohio, for plaintiff.

Hugh A. Chapin, Kenyon & Kenyon, Reilly, Carr & Chapin, New York City, Arthur D. Gray, New York City, Paul Winterhalter Pickrel, Schaeffer & Ebeling, Dayton, Ohio, for defendants.

FINDINGS OF FACT, OPINION AND CONCLUSIONS OF LAW

CARL B. RUBIN, District Judge.

This action was brought by General Motors Corporation (General Motors) against Toyota Motor Company, Ltd., Toyota Motor Sales Company, Ltd., and Toyota Mid-America Distributors, Inc. (Toyota) over claims five (5) through eight

(8) of United States Patent 3,852,041 ('041 patent). General Motors contends that Toyota infringed the '041 patent. Toyota denies that allegation and, in the alternative, contends that the '041 patent is invalid, as well as unenforceable.

A trial on these issues was held in November and December, 1977. On the basis of the evidence adduced at that trial, this Court submits herewith findings of fact, opinion and conclusions of law in accordance with Rule 52(a) of the Federal Rules of Civil Procedure.

I

FINDINGS OF FACT

A. *General Background*

1. A catalytic converter is a device which reduces the concentration of pollutants in car engine exhaust. It operates by subjecting engine exhaust to a chemical reaction before the exhaust is emitted from the tailpipe, rather than by modification of the engine. (R. 196-98)

2. There are two basic types of catalytic converters. A Monolithic Catalytic Converter consists of a ceramic block with a labyrinth of catalyst-coated channels throughout its length. Catalysis occurs by the passage of exhaust gas through these channels. By contrast, a Downflow Catalytic Converter, like the one described by the '041 patent, consists of an inlet chamber, an inner chamber in which catalyst-coated ceramic pellets are contained, and an outlet chamber. Catalysis occurs by the passage of exhaust gas into the inlet chamber, downward through the inner chamber, and out through the outlet chamber. (R. 192-95)

3. Initial interest in catalytic converters was regional and short-lived. The first converters were developed in the early sixties in response to California's stringent car emission standards. However, catalytic converter development ended in the middle of that decade because of converter failure from fuel contamination and structural deformity at high temperatures. (R. 207-08)

4. The spectre of national legislation requiring the cleansing of car exhaust and the introduction of unleaded gasoline as an automobile propellant rekindled interest in catalytic converters in the late sixties. Since it was known generally that a catalytic converter will operate efficiently only if an engine burns unleaded fuel, the automobile industry's switch to unleaded fuel in 1969 tranformed catalytic converters into a viable means for achieving the proposed national emissions standards. Put simply, the proposed legislation set a goal and the decision to use unleaded fuel made catalytic converters a practical means of achieving that goal. (R. 199-200; 205-06. Exhibit 416 at H00021)

B. *General Motors Experience*

1. General Motors is incorporated in Delaware and has its principal place of business in Michigan. It is the largest manufacturer of motor vehicles in the United States.

2. In late 1969, General Motors divided responsibility for development of a catalytic converter among three groups. Both a Catalyst Group and a Catalyst Container Group were created at General Motors' AC Spark Plug Division (AC Spark Plug). In addition, an Applications Group was created at General Motors' Oldsmobile Division. The first group was charged with identifying an appropriate metal to produce the catalytic reaction; the middle group was charged with developing a structure to contain the catalytic reaction; and the latter group was charged with placing the catalytic converters designed by AC Spark Plug on all General Motors' cars. (R. 207; 368-69)

3. The Container Group, in turn, divided-up responsibilities. The Product Engineering Section was responsible for converter design. By contrast, the Production Engineering Section was responsible for developing tools, machines, and facilities for efficiently manufacturing converters designed by the Product Engineering Section. (R. 368; 1222-24; 1390)

4. The skills of the people who worked in these sections were compatible with their job functions. Product Engineering

staff members were mechanical engineers with extensive experience in the design of automotive parts. Alternatively, Production Engineering staff members were mechanical engineers who were familiar with efficient ways to manufacture automotive parts. (R. 1222-23)

5. The initial objective of the Container Group was development of a downflow "replaceable element" catalytic converter. Catalysts which had been utilized up to that time were short-lived. Accordingly, it was felt necessary to have a converter to which fresh catalyst could be added periodically. (R. 208-09; 370; 376. Exhibit 220)

6. This type of downflow converter displayed two irremediable problems. First, it consisted of too many parts to be manufactured economically. Second, it leaked. A converter requiring the periodic addition of new catalyst could not be totally welded together. Therefore, under high temperatures, exhaust gas tended to by-pass the converter whereever removable parts joined with other parts. (R. 208-09; 376; 380-81; 1224-27; 1391-93)

7. Because of these problems, the Container Group abandoned replaceable element converters in late June or early July, 1970. Instead, attention was focused on development of a converter without removable parts. Although a "unitized" converter could not be refilled with fresh catalyst, Container Group staff members hoped that its welded seams would prevent the leakage and high costs associated with the replaceable element converter. (R. 261-62; 380-81; 1227-37)

8. The Container Group did not start from scratch in developing unitized converters. In fact, two of these converters had been developed within the Container Group prior to abandonment of the replaceable element converter.

9. The first converter concept developed within the Container Group was the CM-474 sketch. It was conceived on March 26, 1970 by Albert J. Moore, a draftsman for the Product Engineering Section. Moore worked alone in this endeavor. (R. 376-380; 550-54; 1393; 1399; 1411. Exhibit 112)

10. The most distinctive feature of the CM-474 sketch was the upper catalyst retainer plate (catalyst housing). It had a downwardly concave semicircular extension and an upwardly concave semicircular extension. Consequently, when the upper catalyst retainer plate was placed between the top housing plate (outer wrap—upper) and the bottom housing plate (outer wrap—lower), the extensions created an inlet and outlet to the converter. (Exhibit 112)

11. Product Engineering staff members totally ignored the CM-474 sketch. Since the staff members still were concentrating their attention on development of a replaceable element converter in March and April, 1970, they apparently thought that the CM-474 sketch should not be pursued. In any event, Product Engineering never made a model of the CM-474 concept. (Finding No. B(7). R. 550-56; 1411)

12. The second concept developed within the Container Group prior to abandonment of the replaceable element converter, and the first one to be considered actively by the Container Group, was the CM-714 converter. According to a General Motors' Record of Invention it was conceived on June 18, 1970 solely by Andrew Banyas, a Production Engineering staff member, and by John Jalbing, a staff member of Product Engineering. However, Moore also should be given some credit for the CM-714 converter since it was derived from the CM-474 sketch. (R. 369; 381-82; 710-716; 1222; 1227-37; 1403-4; 1410. Exhibits 113 and 257)

13. Although the CM-714 converter was like the CM-474 sketch in its use of an extended catalyst retainer plate, there were several differences between the two designs. First of all, the CM-714 converter had four plates rather than six. Secondly, both the top and bottom housing plates of the CM-714 converter had two semicircular extensions rather than just one. Finally, the lower catalyst retainer plate in the CM-714 converter, rather than the upper catalyst retainer plate, had extensions into an inlet and outlet formed by the housing plates. (Exhibit 113)

14. The initial tests run on the CM-714 converter in August and September, 1970 produced mixed results. These tests showed that the CM-714 converter successfully reduced the concentration of pollutants in car exhaust and that the CM-714 converter presented very little resistance to exhaust gas flow. However, they also suggested that the CM-714 converter was not durable. The early CM-714 converters tended to balloon and to rupture at relatively low temperatures. (R. 389-96. Exhibit 138D)

15. Despite these disappointing results, the CM-714 converter was not abandoned. General Motors not only continued to perform tests with and on the CM-714 converter well into 1973, but also lauded the CM-714 converter on television and before an American Petroleum Institute meeting in September and November, 1970, respectively. (R. 396-97; 412-14. Exhibit 270)

16. The first type of supplemental experimentation initiated by General Motors was performed with the CM-714 converter, rather than on it. More particularly, the experimentation concerned converter placement, cooling loop routing, and emission and catalyst performance under different engine parameters, rather than the durability of the CM-714 converter at sustained high temperatures. General Motors began seliing CM-714 converters for these purposes to its car divisions in September, 1970. Later that year, offers to sell and sales of CM-714 converters for these purposes also were made to International Harvester Corporation and to American Motors Corporation. In the latter cases, the sales always were made with the express reservation that the buyer respect General Motors' proprietary interests and that the buyer report all test results to General Motors. (R. 212; 400-418; 465; 1360-89; Exhibit 138A)

17. The second type of supplemental experimentation conducted by General Motors sought to evaluate the durability of CM-714 converters made from different types metal and reinforced with different numbers of support studs. These tests

were conducted mostly by General Motors between October, 1970 and June, 1973. Generally, they showed that a CM-714 converter made from stainless steel and reinforced with four studs could withstand considerably higher temperatures than could the original CM-714 converters which were unsupported and which were made from aluminized steel. (R. 263-68; 296-97; 568-82. Exhibits 138D, I, K, M and 139)

18. Despite these improved results, the CM-714 converter did not become General Motors' production-line catalytic converter. Another converter was conceived by Michael Foster, Albert Moore and James Haggart in early October, 1970, which had production advantages and some performance characteristics that were unmatched by the CM-714 converter. The new converter was called the CM-1090. (R. 565-67. Exhibits 116 and 270)

19. The CM-1090 converter closely resembled the CM-714 converter. Both designs contemplated four plates; both designs included top and bottom housing plates with two semicircular extensions; and both designs called for a bottom retainer plate with semicircular extensions into an inlet and outlet formed by the housing plates. However, only the CM-1090 converter included an upper retainer plate with semicircular extensions which nested with the semicircular extensions of the bottom retainer plate. Moreover, only the CM-1090 converter included an upper retainer plate with a peripheral flange that extended longitudinally and laterally between the flanges of the other plates. (Exhibit 114)

20. The first CM-1090 converter was built in late January, 1971 and was tested in early February, 1971. The results of those tests were very promising. They showed that CM-1090 converters constructed from stainless steel and reinforced with four studs could withstand over 2000° without structural deformity. (R. 417-24; 584-86. Exhibit 138K)

21. General Motors took two actions because of the encouraging performance of the CM-1090 converter. First of all, it abandoned the CM-714 converter as a production-line al-

ternative well after February, 1971. Secondly, it applied for a patent on the CM-1090 converter on September 7, 1971. (R. 1383-84. Exhibits 101, 138, 139 and 447, 447b-1)[1]

22. General Motors prosecuted its patent application for over three years. The first application was followed by a second application on December 23, 1971. The second application, in turn, was followed by a third application on June 14, 1972. On November 30, 1973, the Patent and Trademark Office (PTO) rejected all but one of the claims contained in the superseding third application. General Motors responded on February 12, 1974 by modifying and narrowing its claims. On April 1, 1974, the PTO allowed all but two of the modified claims. Displeased with this result, General Motors argued its cause orally before the PTO on May 23, 1974. As a result of General Motors' argument and the PTO's own review of four prior art patents—Scheitlin U.S. Patent No. 3,149,925; Fessler U.S. Patent No. 3,600,142; Patterson U.S. Patent No. 3,615,255; and Fessler U.S. Patent No. 3,702,236—all of the claims, as modified on February 12, 1974, were allowed. The '041 patent ultimately issued on December 3, 1974. (Exhibits 101, 115, 271, 272 and 274)

23. To date, General Motors has issued one license to manufacture its patented converter. In May, 1975, General Motors licensed Nissan Motor Company, Ltd. to manufacture the patented converter under a pending Japanese patent application which corresponds to the '041 patent. So far, this agreement has generated over one million dollars in royalty income for General Motors. Interestingly, no cars outfitted with converters made under this license are sold within the United States. (R. 623-638. Exhibits 127 and 456)

C. Toyota's Experience

1. Toyota Motor Company, Ltd. is a Japanese corporation with its principal place of business in Toyota, Japan. Toyota

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1 See Appendix A.

Motor Sales Company, Ltd. is a Japanese corporation with its principal place of business in Nagoya, Japan. Toyota Mid-America Distributors, Inc., is incorporated in Delaware and has its principal place of business in Carol Stream, Illinois.

2. Toyota's initial research into catalytic converters was not as productive as General Motors'. Although Toyota began to develop converters at about the same time that General Motors did, it did not produce a converter which it thought was suitable for durability testing until October, 1971. (R. 292; 305-06; 313-14. Exhibit 136)

3. The results of this testing program were very disappointing. Prototype converters regularly ruptured or sagged when they were subjected to high temperatures. Accordingly, by early April, 1972, Toyota was looking actively for a new converter design. (R. 306-27. Exhibit 133(21) pp. 856, 863, 877, 895-97, Exhibit 136(23))

4. Toyota found that design at a public hearing conducted in Washington, D.C. on April 17, 1972. At the request of the Environmental Protection Agency, General Motors gave a status report that day on its efforts to achieve the recently enacted federal exhaust emissions standards. As part of its presentation, General Motors displayed and explained a modified version of the CM-1090 converter. Kiyoshi Matsumoto of the Toyota Motor Company, Ltd. seized this opportunity to make a detailed sketch of General Motors' converter which he subsequently delivered to his company's converter research group in Japan. (R. 327-52. Exhibit 134(3))

5. Armed with the Matsumoto sketch, Toyota constructed a converter which contained all of the essential elements of the patented converter, but in slightly modified form. Thus, both designs were alike in their use of: four plates; catalyst retainer plates with extensions into either the inlet or outlet formed by the housing plates; catalyst retainer plates with peripheral flanges that extended laterally and longitudinally between the flanges of the other plates; an inclined catalyst bed; and, two layer peripheral walls immediately inboard the common edge

of the four plates. However, the Toyota converter differed from the patented converter to the extent that the former converter had: an upper catalyst retainer plate which extended only into the inlet formed by the housing plates; a lower catalyst retainer plate which extended only into the outlet formed by the housing plates; and, an additional peice of metal attached to the inlet end of the upper catalyst retainer plate. (R. 436-59. Exhibits 107, 109, 117, 118, 120, 134(6)(11)(12), 136(14)(15), 151, 152 and 447)[2]

6. The results of tests run on Toyota's General Motors style converter in 1972 and 1973 were satisfactory. Thus, by June, 1973, Toyota was able to report to the Environmental Protection Agency that it had solved most of the problems which it had confronted only one year earlier. (Exhibit 136(23))

7. It is this modified version of General Motors' patented converter which Toyota ultimately put into production and which General Motors' now asserts infringes claims five (5) through eight (8) of the '041 patent. (Exhibit 120)

II

OPINION

Introduction

Three issues are presented for review. First, are claims five (5) through eight (8) of the '041 patent invalid for obviousness? Second, does the Toyota production-line catalytic converter infringe claims five (5) through eight (8) of the '041 patent? Third, are claims five (5) through eight (8) of the '041 patent unenforceable? Since the validity determination is potentially dispositive of all issues, it will be made first.[3]

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2 See Appendix B.

3 *Sinclair & Carroll Co., Inc. v. Interchemical Corp.*, 325 U.S. 327, 330, 65 S.Ct. 1143, 89 L.Ed. 1644 (1945).

A) *Validity of the '041 Patent*

A trial court must make several factual inquiries before it can make a legal judgment about the validity of a patent under Title 35, United States Code, Section 103.[4] It must: A) delimit the scope of art which is *pertinent* to the subject matter of the patent-in-suit; B) determine whether references within the pertinent art constitute *prior art;* C) identify the differences between the *pertinent prior art* and the disputed claims of the patent-in-suit; and D) evaluate the *level of ordinary skill* in the pertinent art at the time that the patent-in-suit was invented.[5]

Considered together, these findings enable the trial court to identify a criterion for determining validity. The first three findings describe the information which should have been known by an average member of the group of persons to which the inventor of the patent-in-suit belongs. Alternatively, the fourth finding describes the methodology of an average member of the group of persons to which the inventor of the patent-in-suit belongs. By projecting what a hypothetical person with these characteristics and with this imputed knowledge would do if he were given a specific problem to solve, a trial court can identify an obvious result. The validity of the patent-in-suit then can be determined by simply comparing this result with the patent-in-suit.

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4 Section 103 provides that:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, § 1, 66 Stat. 798.

5 *Graham v. John Deere,* 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966).

1) *Scope of the Pertinent Art*

i) *Applicable Law*

The scope of pertinent art is defined by the problem which the patent-in-suit allegedly solves rather than by the type of product which the patent-in-suit describes. Restated, if the inventor of the patent-in-suit could reasonably have been expected to look to a reference to solve the problem which the patent-in-suit allegedly solves, that reference is pertinent art.[6]

That is not to say that a reference which describes the same type of product that is discussed by the patent-in-suit ever can be other than pertinent art. All that is meant is that a reference, which describes a different type of product than is described by the patent-in-suit, is nevertheless analogous art and therefore within the scope of pertinent art if it attempts to solve the same problem which the patent-in-suit allegedly solves.[7]

ii) *Application of Law to Present Case*

The problem confronted by the inventors of the '041 patent was more one of improving prior downflow catalytic converters (i.e., those which place one container within another container in such a manner that an incoming fluid will enter an inlet chamber and pass through an inner chamber before being

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6 *Graham, supra* at 35, 86 S.Ct. 684; *In re Grout,* 377 F.2d 1019, 1022, 55 CCPA 1559 (1967); *Johnson & Johnson v. W. L. Gore & Assoc., Inc.,* 436 F.Supp. 704, 718 (D.Del.1977); *Lewart Co. v. Acco Intern., Inc.,* 428 F.Supp. 258, 259 (N.D.Ill.1976) *aff'd,* 558 F.2d 1031 (7th Cir.); *Tokyo Shibaura Electric Co., Ltd. v. Zenith Radio Corp.,* 404 F.Supp. 547, 558-59 (D.Del.1975) *aff'd,* 548 F.2d 88 (3rd Cir.); *Fischer & Parker Co. v. Haskett,* 354 F.Supp. 464, 477 (E.D.Pa.1973); Kitch, "Graham v. John Deere Co.: New Standards for Patents," 49 *J. of Pat. Off. Soc'y,* 237, 287-94 (1967).

7 *Burgess Cellulose Co. v. Wood Flong Corp.,* 431 F.2d 505, 509 (2d Cir. 1970); *Skega Aktiebolag v. B. F. Goodrich Co.,* 420 F.2d 1358, 1359 (6th Cir. 1970); *General Metals Powder Co. v. S. K. Wellman Co.,* 157 F.2d 505, 510 (6th Cir. 1946).

expelled through an outlet chamber)[8] than one of pioneering a new catalytic converter design concept. At the time the '041 patent was invented, the advantages of downflow converters over other design concepts were well-known.[9] However, so were the problems exhibited by such converters. In particular, prior downflow catalytic converters were susceptible to exhaust gas bypass of the inner chamber of the converter due to leakage between the outer container and the inner container of the converter after extended usage at high temperatures.[10] Therefore, when the inventors of the '041 patent began their research in early 1969, the scope of pertinent art was restricted to techniques for sealing a container within a container in such a manner that an entering fluid would pass through an inlet chamber, an inner chamber and an outlet chamber.

Tested against this standard, almost all of the references which Toyota cites against the '041 patent are within the scope of pertinent art. Of the ten references cited by Toyota, eight describe the same type of product described by the '041 patent and, therefore, implicitly deal with the same problem with which the '041 patent deals. In addition, one of the two references which do not describe products of the type described by the '041 patent clearly deals with the same problem treated by the '041 patent.

The eight references which describe the same type of product described by the '041 patent are within the scope of art which is pertinent to the '041 patent. It is axiomatic that devices belonging to the same product line treat the same problems. Restated in terms of the '041 patent, all downflow catalytic converters implicitly attempt to seal one container within another container to produce flow through three chambers. Therefore, Fessler '236,[11] a 1963 article in the Journal of the

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8 Finding of Fact No. A(2).

9 R. 195.

10 R. 1124-1145; Exhibit 421-A.

11 Exhibit 424.

Society of Automotive Engineers (SAE article),[12] Patterson '255,[13] Fessler '142,[14] Scheitlin '925,[15] Johnson '073,[16] the CM-474 sketch,[17] and the CM-714 converter[18] are within the scope of pertinent art because they, like the '041 patent, describe downflow catalytic converters.

A similar conclusion cannot be drawn with respect to the remaining two references cited by Toyota. Unlike the other references, the remaining two references do not describe products of the type described by the '041 patent: one describes a device for reducing noise generated by an automobile engine (British '013);[19] the other describes a device for effecting heat exchange between separated fluids (Morrison '314).[20] Therefore, these two references can be included within the scope of art which is pertinent to the '041 patent only if they attempt to solve the same problem which the '041 patent allegedly solves.

Under this guideline, British '013 is clearly within the scope of art which is pertinent to the '041 patent. Although British '013 actually describes the creation of four chambers by combining two containers, a fluid entering the inlet chamber nevertheless will pass through only one inner chamber before exiting through an outlet chamber. Thus, like the '041 patent, British '013 describes how to seal one container within another container in order to channel an incoming fluid through three

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12 Exhibit 423.

13 Exhibit 227.

14 Exhibit 421.

15 Exhibit 425.

16 Exhibit 201.

17 Exhibit 112.

18 Exhibit 113.

19 Exhibit 420.

20 Exhibit 422.

chambers before it exits the containers.[21] Accordingly, it is pertinent art.

Conversely, Morrison '314 is outside the scope of art which is pertinent to the '041 patent. While Morrison '314 discloses how to dispose one container within another container in order to create three chambers, it teaches how to channel a fluid through only one of those chambers rather than through all of them. In other words, Morrison '314 teaches how to dispose one container within another container in order to produce leak paths which the inventors of the '041 patent were attempting to eliminate.[22] Accordingly, Morrison '314 is outside the scope of art which is pertinent to the '041 patent.

2) *Content of the Pertinent Prior Art*

Although a reference is within the scope of pertinent art, it is not automatically available for use against a patent-in-suit. Before a pertinent reference may be used to invalidate a patent-in-suit, it also must constitute prior art.

i) *Applicable Law*

Prior art is a difficult concept to define. For instance, a literal definition of it is impossible. Although the term suggests that only pertinent art which was available to the public before invention of the patent-in-suit may qualify as pertinent prior art, pertinent art which was not invented until after invention of the patent-in-suit,[23] or which was invented before invention of the patent-in-suit but not publicly disclosed until after invention of the patent-in-suit,[24] also may constitute pertinent prior art.

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21 Admittedly, the flow path described by British '013 differs from the flow path described by the '041 patent. (R. 1121). Nevertheless, a fluid which enters either of the devices described by the patents will pass through only three chambers before it exits. (Exhibit 930j).

22 R. 1152-1158.

23 35 U.S.C. § 102(b). See note 29, *infra*.

24 35 U.S.C. § 102(g). See note 29, *infra*.

The only real link among the different categories of pertinent prior art is the uniform impact which the references within them have upon the Patent System's objective of advancement of the arts and sciences.[25] Unlike pertinent art, pertinent prior art always advances the arts and sciences by encouraging prompt disclosure of new concepts.[26] This is because pertinent prior art, unlike pertinent art, always is characterized by a timely public disclosure of pertinent information.[27]

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25 Clause 8, Section 8, Article 1 of the U.S. Constitution provides that:

> The Congress shall have the Power . . . To promote the Progress of Science and Useful Arts, by securing for limited Time to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

26 *Kendall v. Winsor,* 62 U.S. (21 How.) 322, 328, 16 L.Ed. 165 (1859); *Harper v. Zimmermann,* 41 F.2d 261, 267 (D.Del. 1930); *Grinnell Corp. v. Virginia Elec. & Power Co.,* 277 F.Supp. 507, 518-19 (E.D.Va.1967), *aff'd,* 401 F.2d 451 (4th Cir. 1968).

27 It is beyond dispute that the timely public disclosure standard for determing pertinent prior art accommodates all of the pertinent prior art described by subdivisions a, b and e of Section 102. Every scenario described by those subdivisions envisions the public disclosure of a pertinent concept through the pertinent art reference before that concept is disclosed through the patent-in-suit. Thus, an inventor is always encouraged to disclose new concepts promptly because he knows that he will receive an unassailable patent monopoly if he is the first inventor to disclose the new concept. See notes 33-34 and accompanying text *infra.*

The controversy centers on whehter this standard can be used to divine Section 102(g) pertinent prior art. Many courts have abjured a public disclosure requirement for Section 102(g) pertinent prior art primarily because that statute does not expressly provide for one. *Sutter Products Co. v. Pettibone Mulliken Corp.,* 428 F.2d 639 (7th Cir. 1970); *Compare International Glass Co. v. United States,* 408 F.2d 395, 187 Ct.Cl. 376 (1969) and *In re Bass,* 474 F.2d 1276, 59 CCPA 1342 (1973) (dictum). Nevertheless, some courts and commentators have disagreed. *In re Bass, supra; Grinnell, supra;* Albrecht, "Foreign Patent Publications Claiming Priority Based on a U.S. Application: Are They 'Prior Art' under 35 U.S.C. 102(g)", 56 *J. of Pat. Off. Soc'y* 422 (1974).

Logic suggests that a timely public disclosure standard should be superimposed upon Section 102(g). If this standard were not superim-

There are *twelve* scenarios[28] in which pertinent art will induce prompt public disclosure of new concepts. They are described in 35 U.S.C. § 102, subdivisions a,[29] b,[30] e,[31] and g.[32,33]

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posed upon Section 102(g), many scenarios might occur which would totally frustrate the Patent System's objective of advancing the arts and sciences. See notes 45-70 and accompanying text *infra*. Since a statute should be interpreted to promote legislative purpose rather than to defeat it, superimposition of a timely public disclosure standard upon Section 102(g) would seem appropriate.

28 Admittedly, the precise meaning of "scenario" is "an outline of the plot of a dramatic or literary work." The American Heritage Dictionary, 1160 (New College Ed., 1976). It is used in this opinion only to describe separate sequences of events.

29 Section 102 provides that:

A person shall be entitled to a patent unless—

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the
invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country or an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the application for patent, or (f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or

a) *Section 102(a) Pertinent Prior Art*

Section 102(a) describes only one scenario. Put briefly, it describes a pertinent concept which is disclosed to the public through a patent, printed publication, use, or piece of information before invention of the concept embodied in the patent-in-suit.[34]

Pertinent art within this scenario always constitutes pertinent prior art. Since an inventor knows that he will be awarded an uncontestable patent monopoly if he is the first person to invent and to disclose his invention to the public, incentive exists for him to disclose his invention promptly.

b) *Section 102(b) Pertinent Prior Art*

In contrast to Section 102(a), Section 102(b) describes five scenarios. They are: a) actual public disclosure of a pertinent concept through a patent, printed publication, use or sale

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concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other. July 19, 1952, c. 950, § 1, 66 Stat. 797.

30 See Note 29, *supra*.

31 See Note 29, *supra*.

32 See Note 29, *supra*.

33 Although some commentators (Chisum, "Source of Prior Art in Patent Law", 52 Wash. L.Rev. 1 (1976)) and courts (*In re Harry*, 333 F.2d 920, 923 n. 1, 51 CCPA 1541 (1964)) contend that other subdivisions of Section 102 describe scenarios in which pertinent art becomes pertinent prior art, only subdivisions a, b, e, and g include language which can be construed to refer to prior art as well as to a patent-in-suit. *In re Bass*, 474 F.2d 1276, 1295 n.3, 59 CCPA 1342 (1973); *Deep Welding, Inc. v. Sciaky*, 417 F.2d 1227, 1233 (7th Cir. 1969); *Compare Nat. Rolled Thread, etc. v. E. W. Ferry Screw Prod.*, 541 F.2d 593, 596 n.3 (6th Cir. 1976).

34 See row 1 of Appendices C1 and C2.

before invention of the concept embodied in the patent-in-suit and more than one year before application is made for the patent-in-suit;[35] b) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent after invention of the concept embodied in the patent-in-suit but more than one year before application is made for the patent-in-suit;[36] c) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and actual public disclosure of the pertinent concept through a printed publication, sale or use after invention of the concept embodied in the patent-in-suit but more than one year before application is made for the patent-in-suit;[37] d) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and application for and issuance of a pertinent patent after invention of the concept embodied in the patent-in-suit but more than one year before application is made for the patent-in-suit;[38] and e) invention of a pertinent concept and actual public disclosure of it through a patent, printed publication, use or sale after invention of the concept embodied in the patent-in-suit but more than one year before application is made for the patent-in-suit.[39]

Pertinent art described by these scenarios also constitutes pertinent prior art. Since an inventor knows that he will be awarded an uncontestable patent monopoly if he is the first person to disclose a concept to the public, even though he may not have been the first person to invent the concept, prompt disclosure of new concepts is inevitably encouraged.

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35 *Id.*

36 See row 2 of Appendix C1.

37 See row 2 of Appendix C2.

38 See row 6 of Appendix C1.

39 See row 15 of Appendix C2 and row 6 of Appendix C2.

c) *Section 102(e) Pertinent Prior Art*

Section 102(e) describes four scenarios. They are: a) actual disclosure of a pertinent concept through a patent before invention of the concept embodied in the patent-in-suit;[40] b) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent before application is made for the patent-in-suit;[41] c) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent after application is made for the patent-in-suit but before the patent-in-suit issues;[42] and d) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent after issuance of the patent-in-suit.[43]

All of these scenarios describe pertinent prior art. Like pertinent art described by Sections 102(a) and 102(b), Section 102(e) pertinent art motivates inventors to disclose new concepts as promptly as possible. Assuming that the application date for a patent which is later issued is always considered the date on which the invention embodied in the patent was publicly disclosed,[44] an inventor knows that he will be awarded an uncontestable patent monopoly if he is the first person to apply for a patent on a new concept.

d) Section 102(g) Pertinent Prior Art

In contrast to the other subdivisions of Section 102, Section 102(g) describes eighteen scenarios. They are: a) actual public

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40 See row 1 of Appendix C1.

41 See row 2 of Appendix C1.

42 See row 3 of Appendix C1.

43 See row 4 of Appendix C1.

44 See *Alexander Milburn Co. v. Davis-Bournonville Co.*, 270 U.S. 390, 46 S.Ct. 324, 70 L.Ed. 651 (1926); and *Hazeltine Research, Inc. v. Brenner*, 382 U.S. 252, 86 S.Ct. 335, 15 L.Ed.2d 304 (1966).

disclosure of a pertinent concept by any means before invention of the concept embodied in the patent-in-suit;[45] b) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent after invention of the concept embodied in the patent-in-suit but before application is made for the patent-in-suit;[46] c) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and actual public disclosure of the pertinent concept by any means other than through a patent after invention of the concept embodied in the patent-in-suit but before application is made for the patent-in-suit;[47] d) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent after application is made for the patent-in-suit but before the patent-in-suit issues;[48] e) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and actual public disclosure of the pertinent concept by any means other than through a patent after application is made for the patent-in-suit but before the patent-in-suit issues;[49] f) application for a patent on a pertinent concept before invention of the concept embodied in the patent-in-suit, and issuance of the pertinent patent after issuance of the patent-in-suit;[50] g) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and actual public disclosure of the pertinent concept by any means other than through a patent after issuance of the patent-in-suit;[51] h) application for a patent on a

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45 See row 1 of Appendices C1 and C2.

46 See row 2 of Appendix C1.

47 See row 2 of Appendix C2.

48 See row 3 of Appendix C1.

49 See row 3 of Appendix C2.

50 See row 4 of Appendix C1.

51 See row 4 of Appendix C2.

pertinent concept before invention of the concept embodied in the patent-in-suit, and the subsequent withdrawal of the application;[52] i) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and no subsequent public disclosure of the pertinent concept;[53] j) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and the application for and issuance of a pertinent patent after invention of the concept embodied in the patent-in-suit but before application is made for the patent-in-suit;[54] k) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, application for a patent on the pertinent concept after invention of the concept embodied in the patent-in-suit but before application is made for the patent-in-suit, and issuance of the pertinent patent after application is made for the patent-in-suit but before the patent-in-suit issues;[55] *l*) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, application for a patent on the pertinent concept after invention of the concept embodied in the patent-in-suit but before application is made for the patent-in-suit, and issuance of the pertinent patent after the patent-in-suit issues;[56] m) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, application for a patent on the pertinent concept after invention of the concept embodied in the patent-in-suit but before application is made for the patent-in-suit, and the subsequent withdrawal of the application for the pertinent patent;[57] n) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and

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52 See row 5 of Appendix C1.

53 See row 5 of Appendix C2.

54 See row 6 of Appendix C1.

55 See row 7 of Appendix C1.

56 See row 8 of Appendix C1.

57 See row 9 of Appendix C1.

application for and issuance of a pertinent patent after application is made for the patent-in-suit but before the patent-in-suit issues;[58] *o*) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, application for a patent on the pertinent concept after application is made for the patent-in-suit but before the patent-in-suit issues, and issuance of the pertinent patent after the patent-in-suit issues;[59] p) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, application for a patent on the pertinent concept after application is made for the patent-in-suit, and the subsequent withdrawal of the application for a patent on the pertinent concept;[60] q) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, and application for and issuance of the pertinent patent after the patent-in-suit issues;[61] and r) invention of a pertinent concept before invention of the concept embodied in the patent-in-suit, application for a patent on the pertinent concept after the patent-in-suit issues, and the subsequent withdrawal of the application for a patent on the pertinent concept.[62]

To summarize, thirteen of the eighteen scenarios describe pertinent art which publicly disclosed a pertinent concept.[63] Eight of those thirteen scenarios, in turn, describe pertinent art which publicly disclosed a pertinent concept before disclosure of the concept embodied in the patent-in-suit.[64] Furthermore,

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58 See row 10 of Appendix C1.

59 See row 11 of Appendix C1.

60 See row 12 of Appendix C1.

61 See row 13 of Appendix C1.

62 See row 14 of Appendix C1.

63 See scenarios a, b, c, d, e, f, g, j, k, *l*, n. *o*, q.

64 See scenarios a, b, c, d, f, j, k, *l*.

of those eight scenarios, six are restricted to pertinent patents,[65] one is restricted to pertinent references other than patents,[66] and one does not impose any restriction on the type of pertinent reference.[67] Alternatively, three of the five scenarios describing pertinent art which publicly disclosed a pertinent concept after disclosure of the concept embodied in the patent-in-suit are restricted to pertinent patents,[68] and two of the five scenarios are restricted to pertinent references other than patents.[69]

There is little question that the pertinent art described by scenarios a, b, c, d, f, j, k and *l* constitutes pertinent prior art. Since an inventor can be assured that a patent issued on a concept which he was first to disclose to the public will be impervious to challenge, use of this kind of pertinent art clearly will encourage prompt disclosure of new concepts.

Pertinent art described by scenarios n, *o*, or q also constitutes pertinent prior art despite the fact that the concept embodied therein is disclosed to the public after public disclosure of the concept embodied in the patent-in-suit. On first blush, a contrary conclusion might be expected since use of a reference which publicly disclosed the same concept embodied in the patent-in-suit after that concept was disclosed through the patent-in-suit seemingly would remove any incentive to disclose new concepts. However, this expectation is unfounded. The first inventor to disclose the new concept still has the assurance that his patent will be protected if he constructively discloses the new concept more than one year before it is constructively disclosed through the asserted reference.[70]

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65 See scenarios b, d, f, j, k, *l*.

66 See scenario c.

67 See scenario a.

68 See scenarios n, *o*, and q.

69 See scenarios e and g.

70 Assuming that the application date of the patent-in-suit could be considered the constructive public disclosure date, 35 U.S.C. § 102(e),

Alternatively, pertinent art described by scenarios h, i, m, p, or r does not constitute pertinent prior art. If an inventor knew that a concept which he patented could be challenged successfully by a prior secret invention despite his utmost diligence in disclosing the concept to the public, the unavoidable risk of invalidation undoubtedly would discourage further public disclosures.

Finally, the pertinent art described by scenarios e or g does not constitute pertinent prior art. The use of such references clearly would discourage inventors from disclosing new concepts. Unlike the patent-in-suit in scenarios n, *o* and q, the patent-in-suit in scenarios e and g never could be asserted as prior art against the pertinent art described by those scenarios, since the latter kinds of pertinent art do not include patents. Accordingly, the first inventor to disclose could not be assured that his patent would be protected if he disclosed the concept embodied therein more than one year before its disclosure through the reference.

ii) *Application of Law to Present Case*

Tested against the foregoing definition of prior art, only eight of the nine pertinent references cited by Toyota constitute pertinent prior art. Three of the eight references are pertinent prior art because they are described by subdivisions a, b, e, and g of Section 102; two of the eight references are pertinent prior art because they are described by subdivision e of Section 102; one of the eight references is pertinent prior art because it is described by subdivisions a, b and g of Section 102; one of the eight references is pertinent prior art because it is described by subdivisions a and g of Section 102; and one of the eight references is pertinent prior art because it is described by subdivision g of Section 102.

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the patent-in-suit, in effect, would become Section 102(b) prior art against the reference patent.

a) *External Pertinent Prior Art*

Scheitlin '925,[71] British '013,[72] and Johnson '073[73] clearly constitute pertinent prior art. The earliest that the '041 patent could have been invented was early February, 1971. Even though the concept embodied in the '041 patent was conceived in October, 1970,[74] it was not reduced to practice until the beginning of February, 1971.[75] By contrast, the concepts embodied in Scheitlin '925, British '013, and Johnson '073, not only were invented before January, 1971, but also were publicized well-before then.[76] Thus, all four references are described by subdivisions a, b, e, and g of Section 102 and, therefore, constitute pertinent prior art.

The SAE article[77] likewise is pertinent prior art. Like the concepts embodied in the previous references, the concept embodied in the SAE article was actually disclosed to the public before the invention date of the '041 patent.[78] However, unlike the previous references, the SAE article was not patented. Accordingly, it constitutes pertinent prior art only under subdivisions a, b and g of Section 102.

Patterson '255[79] and Fessler '142[80] constitute pertinent prior art for a different reason. The concepts embodied in Patterson

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71 Exhibit 425.

72 Exhibit 420.

73 Exhibit 201.

74 See Finding of Fact B(18).

75 See Finding of Fact B(20).

76 See Appendix D.

77 Exhibit 423.

78 See Appendix D.

79 Exhibit 227.

80 Exhibit 421.

'255 and Fessler '142 were not *actually* disclosed to the public before the invention date of the '041 patent. However, they were invented and *constructively* disclosed before that date. In both cases, a patent on the concept embodied in the reference was applied for before the invention date of the '041 patent and was issued after invention of the '041 patent.[81] Thus, both references are described by Section 102(e) and, therefore, constitute pertinent prior art.

Fessler '236[82,83] also constitutes pertinent prior art. If the concept embodied in Fessler '236 were invented before the invention date of the '041 patent, Fessler '236 would constitute Section 102(g) pertinent prior art because it would have been constructively disclosed to the public before public disclosure of the invention embodied in the '041 patent. Conversely, if the invention date of Fessler '236 were after the invention date of the '041 patent, Fessler '236 would not constitute pertinent prior art. Under such circumstances, doubt should be resolved against the patentee in order to avoid the possibility that an invalid patent might issue because of unavailability of a potentially invalidating prior art reference.[84] Since General Motors has not produced any evidence which would suggest that Fessler '236 was invented after the '041 patent, it follows that Fessler '236 may be cited against the '041 patent.

b) *Internal Pertinent Prior Art*

1) *CM-474 Sketch*

Determination of whether the CM-474 sketch constitutes pertinent prior art requires a more detailed inquiry. First, it must be determined whether the CM-474 sketch was developed by the same entity that developed the '041 patent. If it was not,

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81 See Appendix D.

82 Exhibit 424.

83 See Appendix D.

84 See notes 93-94 and accompanying text *infra*.

it then must be determined whether the CM-474 sketch embodies an invention. Provided that it does, it also must be determined whether the invention embodied in the CM-474 sketch was publicly disclosed. If so, it finally must be determined whether that invention was abandoned, suppressed or concealed before the invention date of the '041 patent.

i) *Creative Entity*

The initial inquiry in determining the status of the CM-474 sketch is whether the sketch and the '041 patent were developed by the same entity. The answer to this question is potentially dispositive, because a reference may constitute Section 102 pertinent prior art only if it was developed by an entity which is different from the one which developed the patent-in-suit.[85]

Although the parties' positions on this question are clear, their arguments are cryptic. Predictably, General Motors contends that the CM-474 sketch and the '041 patent were developed by the same entity. In support of this contention, General Motors apparently argues that the CM-474 sketch was the product of a joint endeavor by Moore, Haggart and Foster to develop the joint invention embodied in the '041 patent, and, therefore, should be treated as though it is one and the same with the '041 patent.[86] In opposition, Toyota contends that Moore developed the CM-474 sketch independently of the other two joint inventors of the '041 patent.

If several persons collaborate to produce a joint invention, the conceptions and inventions of one of them will be assimilated into the joint invention only if those conceptions and inventions were generated by the collaborative effort which produced the joint invention.[87] Therefore, a conception or

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85 See generally *In re Land*, 368 F.2d 866, 54 CCPA 806 (1966).

86 Plaintiff cites *Monsanto v. Kamp*, 269 F.Supp. 818 (D.D.C. 1967) in support of this contention.

87 *Thropp & Sons Co. v. DeLaski & Thropp Circular Woven Tire Co.*, 226 F. 241 (3d Cir. 1915); *McKinnon Chain Co. v. American Chain*

invention which is developed by a joint inventor before commencement of the collaborative effort never can be treated as the conception of a joint invention or as a joint invention because it is not the result of a collaborative effort to produce a joint invention. However, if the prior conception or invention is modified as a result of a collaborative effort, the modified conception or invention may become the conception of a joint invention or a joint invention.

Under this standard, the CM-474 sketch is the separate conception or invention of Moore. The evidence amply demonstrates that the CM-474 sketch was not generated by the collaboration of Moore, Foster and Haggart. First of all, Moore and Haggart could not have collaborated because Haggart was not a member of the General Motors group which developed the catalytic converter at the time Moore drew his sketch.[88] Secondly, Moore and Foster could not have collaborated because they were pursuing antithetical lines of inquiry.[89] Moore's CM-474 sketch depicts a unitary catalytic converter in which the catalyst element is not removable. By contrast, Foster was concerned exclusively with the development of a replaceable element converter at the time that the CM-474 sketch was made. Accordingly, the CM-474 sketch was the sole conception or invention of Moore rather than the product of a collaborative effort by Moore, Haggart and Foster.

ii) *Existence of Invention*

The second consideration in determining the status of the CM-474 sketch is whether it embodies an invention. Like the inquiry into creative entities, this inquiry also is potentially

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Co., 268 F. 353 (3d Cir. 1920); *Pointer v. Six Wheel Corp.*, 177 F.2d 153 (9th Cir. 1949); *S. W. Farber, Inc. v. Texas Instruments, Inc.*, 211 F.Supp. 686 (D.Del. 1962). *Compare Norton Co. v. Carborundum Co.*, 397 F.Supp. 639 (D.Mass. 1975).

88 R.1141. See Finding of Fact B(9).

89 R.376-380; 550-54; 1393. See Finding of Fact B(9).

dispositive since a reference must embody an invention in order to constitute prior art.

The parties' disagreement on this issue is rooted in law rather than in fact. General Motors contends that the sketch lacks invention because the conception which it discloses never was reduced to practice.[90] In opposition, Toyota contends that the sketch embodies an invention because reduction to practice is unnecessary where, as here, the proposed reference discloses a conception in sufficient detail ". . . to enable one skilled in the art to reduce [the conception] to practice."[91]

With few exceptions, invention occurs only when a conception is reduced to practice. This rule is designed ". . . to benefit the public as well as to protect the inventor. An inventor, who reduced his invention to practice in such a complete way that he at once perfects it as an invention and, at the same time, practically demonstrates its utility, is clearly to be preferred to one who merely makes hints and suggests to others and who failed himself to carry them into practice."[92]

However, this rule is not inflexible. In ex parte proceedings, as opposed to interference proceedings, a printed publication or public knowledge, which discloses a conception in sufficient detail ". . . to enable one skilled in the art to reduce [the conception] to practice," may embody an invention and thereby constitute potential prior art, even though it is unclear whether the conception which the publication or knowledge discloses was reduced to practice.[93]

This exception is based upon practical necessity. Unlike the parties in an inference proceeding, the parties in an ex parte proceeding do not have enough familiarity with the asserted

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90 Plaintiff cites *In re Schlittler,* 234 F.2d 882, 43 CCPA 986 overruled in part by *In re Borst,* 345 F.2d 851, 52 CCPA 1398 (1965); and *Kear v. Roder,* 115 F.2d 810, 28 CCPA 774 (1940), in support of its contention.

91 *In re Borst,* 345 F.2d 851, 855, 52 CCPA 1398 (1965).

92 1 Deller's Walker on Patents § 46 at 201-02.

93 *In re Borst, supra* at 855; *Kear, supra.*

reference to establish when it was reduced to practice.[94] Therefore, if a conception, which is disclosed either by printed publication or by public knowledge, had to be reduced to practice before the asserted reference could embody an invention and thereby constitute potential prior art, many invalid patents might issue because of the parties' inability to establish when the asserted prior art reference was reduced to practice. Conversely, the exception does not apply, even in an ex parte proceeding, where one of the parties has the ability to establish when the conception disclosed by the asserted reference was reduced to practice.

Although some references might be excepted from operation of the conventional rule of invention, the CM-474 sketch is not among them. In the present case, one of the litigants (General Motors) actually developed the contested reference. Accordingly, the CM-474 sketch can embody an invention only if Toyota first shows that the sketch was reduced to practice.

Toyota has not met this burden. As Toyota concedes in its pretrial brief, " '[after] Moore failed to convince Foster of the merits of the CM-474 the drawing was put away and nothing further was done with it.' "[95] Since it is "well established that a conception evidenced by disclosure, drwings, and even a model, confers no rights upon an inventor unless followed by some other act, such as actual reduction to practice, or filing an application for patent,"[96] it follows that the CM-474 sketch does not embody an invention and, therefore, does not constitute pertinent prior art of any type.

2) *CM-714 Converter*

Determination of whether the CM-714 converter constitutes pertinent prior art requires the same detailed inquiry which was

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94 *Kear, supra.*

95 Defendant's Pre-Trial Brief, p. 67. See also Finding of Fact B(11).

96 *Automatic Weighing Machine Co. v. Pneumatic Scale Corp.*, 166 F. 288, 289 (1st Cir. 1909).

used to analyze the CM-474 sketch. Restated, the CM-714 converter may be cited against the '041 patent only if it embodies an *invention* which: (1) was created by a different entity than was responsible for the '041 patent; (2) was publicly disclosed; (3) and was not abandoned, suppressed or concealed before the invention date of the '041 patent.

i) *Creative Entity*

The parties intially dispute who developed the CM-714 converter. General Motors contends that development of the CM-714 converter, like that of the CM-474 sketch, should be credited to the joint inventors of the '041 patent. Since the CM-714 converter allegedly was derived from the CM-474 sketch, General Motors reasons that the CM-714 converter is really attributable to the joint inventors of the '041 patent because the CM-474 sketch is one and the same within the '041 patent. Toyota disagrees. It contends that, even if the CM-714 converter were derived from the CM-474 sketch, the CM-714 converter still would be the creation of someone other than the joint inventors of the '041 patent because Moore alone is responsible for the CM-474 sketch.

The previous attribution of credit for the CM-474 sketch controls the determination of who developed the CM-714 converter. General Motors' contention that the CM-714 converter should be attributed to the joint inventors of the '041 patent rests upon the validity of attributing the development of the CM-474 sketch to the joint inventors of the '041 patent. However, it already has been established that the CM-474 sketch was the sole product of Moore.[97] Therefore, even if the CM-714 converter were derived from the CM-474 sketch, it still would be the product of an entity different from the one which created the '041 patent.

ii) *Existence of Invention*

The parties also dispute whether the CM-714 converter embodies an invention. General Motors contends that the

97 See notes 85-89 and accompanying text *supra*.

CM-714 converter lacks invention because the conception which it discloses never was commercially successful and, therefore, never was reduced to practice.[98] In opposition, Toyota contends that the CM-714 converter embodies an invention because it performed the function for which it was intended and, therefore, was reduced to practice.[99]

Generally, a conception is reduced to practice whenever a device embodying the conception is tested ". . . in such a way as to demonstrate [the device's] practical utility for its intended purpose . . . beyond probability of failure."[100] "Satisfactory reduction to practice of [a conception], however, does not demand proof of successful commercial use."[101] Thus, a conception "may be reduced to practice by building a working model and operating it under simulated field conditions without the necessity of showing successful commercial use."[102]

Assuming that the CM-714 converter may be used as prior art only if it were reduced to practice, that event occurred early in January, 1971. Imputing the intended purpose of the '041 converter to the CM-714 converter, the latter device was designed to control automobile emissions by eliminating exhaust gas by-pass of the converter catalyst due to failure of the catalyst housing.[103] Concededly, eleven CM-714 converters failed to achieve this goal because of structural deformity at high temperatures. However, twenty-eight CM-714 converters,

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98 Plantiff cites *Payne v. Hurley*, 71 F.2d 208, 210, 21 CCPA 1144 (1934) and *Sinko Tool v. Automatic Devices*, 157 F.2d 974, 977 (2d Cir. 1946), in support of its contention.

99 Defendants cite *Ajem Labs, Inc. v. C. M. Ladd Co.*, 424 F.2d 1124 (6th Cir. 1970) in support of their contention.

100 *Toledo Scale Corp. v. Westinghouse Electric Corp.*, 351 F.2d 173, 182 (6th Cir. 1965).

101 Id.

102 *Ajem, supra* at 1127, summarizing *Toledo, supra.*

103 See notes 8-10 and accompanying text *supra.*

beginning with one tested before January 7, 1971, did meet the CM-714 converter's intended purpose.[104] Therefore, when read together, these tests demonstrate that the CM-714 converter was more likely to achieve its intended purpose than fail to achieve it.

iii) *Public Disclosure of Invention*

By itself, invention of the CM-714 converter prior to the invention date of the '041 patent does not make the CM-714 converter prior art against the '041 patent. Before the CM-714 converter can constitute Section 102 pertinent prior art, the invention which it embodies must have been publicly disclosed before the invention date of the '041 patent.

Generally speaking, an invention is publicly disclosed when it is placed "on sale" to someone outside the inventorship entity. By making one unrestricted sale of his invention, the inventor theoretically reveals his secret to the public.[105]

In the context of Patent Law, an invention may be placed "on sale" in two ways. First, it may be placed "on sale" by an actual and completed transaction.[106] Under this interpretation, an inventor must construct a physical specimen of his invention and deliver it to a third party who accepts it before the invention is technically "on sale." Alternatively, an invention is placed "on sale" whenever its "inventor or his company engages in any activity to sell the [invention]," including making an offer for sale.[107] "This is true, even when (a) but one

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104 See Exhibit 139, tabs 1-49.

105 *Egbert v. Lippmann*, 104 U.S. 333, 336, 26 L.Ed. 755 (1882); *Consolidated Fruit-Jar Co. v. Wright*, 94 U.S. 92, 99, 24 L.Ed. 68 (1877); *Dunlop Co., Ltd. v. Kelsey-Hayes Co.*, 484 F.2d 407, 413 (6th Cir. 1973).

106 *B. F. Sturtevant Co. v. Massachusetts Hair & Felt Co.*, 124 F.2d 95, 97 (1st Cir. 1941).

107 *Amphenol Corp. v. General Time Corp.*, 397 F.2d 431, 433 (7th Cir. 1968).

offer has been made to but one customer; (b) the prices are only estimated rather than established; (c) no commercial production runs have been made; and (d) the alleged invention is never sold."[108]

The "on sale" rule has one exception. Even though title to an article which embodies an invention may have passed out of the inventorship entity, the invention will not be considered to be "on sale" if the transaction was for an experimental use.[109] This exception is designed to insure that an inventor has a reasonable time from the date of his invention in which "to perfect his idea before applying for a patent."[110]

Two elements must be present for the experimental use exception to apply. First, "the contract of sale or offer for sale [must] contain an express or clearly implied condition that the sale or offering is made primarily for experimental use."[111] Second, "the experimentation must relate to the subject matter of the [invention]."[112]

Applying these principles to the present case, it must be concluded that the CM-714 converter was "on sale", and therfore publicly disclosed,[113] prior to the invention date of the

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108 *Chromalloy Am. Corp. v. Alloy Surfaces Co.*, 339 F.Supp. 859, 869 (D.Del.1972).

109 *Elizabeth v. Pavement Co.*, 97 U.S. 126, 24 L.Ed. 1000 (1878); *Minnesota Mining & Mfg. Co. v. Kent Industries, Inc.*, 409 F.2d 99 (6th Cir. 1969).

110 *Watson v. Allen*, 103 U.S.App.D.C. 5, 9, 254 F.2d 342, 346 (1958); 2 Deller's Walker on Patents § 145.

111 *Robbins Co. v. Lawrence Mfg. Co.*, 482 F.2d 426, 433 (9th Cir. 1973).

112 *Minnesota, supra* at 101; *Kalvar Corp. v. Xidex Corp.*, 384 F.Supp 1126 (D.Cal.1973), *aff'd* 556 F.2d 966 (9th Cir. 1977).

113 The conclusion that General Motors publicly disclosed the CM-714 converter before invention of the '041 patent is supported by more than its sale of the CM-714 converter to unallied customers. In fall, 1970, General Motors publicly displayed the CM-714 converter on television and before the American Petroleum Institute. See Finding of Fact B(15).

'041 patent. The evidence establishes that General Motors sold sample CM-714 converters to an unallied party before the invention date of the '041 patent, and that the experimentation for which those CM-714 converters were used did not relate to the subject matter of the invention embodied in them.

Without a doubt, the CM-714 converter was offered for sale and sold to an entity outside General Motors before the invention date of the '041 patent. An International Harvester Corporation (International Harvester) purchase order dated September 16, 1970, indicates that the purchase order was sent to General Motors to confirm an arrangement reached between those two companies on the previous day.[114] Although the purchase order does not expressly state that it was made in response to an offer from General Motors, the inference is clear that it was. In any event, that offer ripened into a completed transaction on November 10, 1970, when delivery of the ordered CM-714 converter ultimately was made.[115]

It also is clear that these sales were not within the experimental use exception. Although the CM-714 converters purchased by International Harvester were sold for experimental use, the experimentation which International performed did not relate to the invention embodied in the CM-714 converter.

Concededly, the CM-714 converters purchased by International Harvester were sold for experimental use. First of all, much of the correspondence exchanged between International Harvester and General Motors expressly stated that the CM-714 converters being shipped to International Harvester were "experimental."[116] Moreover, experimental purpose can be implied from activities which prefaced the offer for sale and sales of the CM-714 converter.[117] General Motors not only elicited a pledge from International Harvester that it would protect

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114 Exhibit 401.

115 Exhibits 138A and 270.

116 Exhibits 403 and 404.

117 See *Kalvar, supra* at 1136.

General Motors' proprietary interests in the CM-714 converter, but also demanded and received reports from International Harvester on the latter's experimentation with the CM-714 converter.[118]

However, it is equally clear that the experimentation which International Harvester performed did not relate to the invention embodied in the CM-714 converter. Drawing upon the '041 patent by analogy, the invention embodied in the CM-714 converter related to the structure of the catalyst housing and not to the catalyst. By contrast, the experiments performed by International Harvester concerned converter emission performance, converter placement, and cooling loop routing, rather than the durability of the catalyst housing at different temperatures.[119] In fact, General Motors actually precluded International Harvester from experimenting with the invention embodied in the CM-714 converter by admonishing it against testing the converter at temperatures above 1500°.[120]

iv) *Abandonment of Invention*

The final consideration in determining whether the CM-714 converter constitutes pertinent prior art is whether the CM-714 converter was abandoned, suppressed or concealed within the meaning of Section 102. General Motors contends that the CM-714 converter was abandoned under Section 102 because the CM-714 converter ultimately was deserted in favor of the '041 patent. In opposition, Toyota contends that the CM-714 converter was not abandoned under Section 102 because it was not deserted by General Motors until after the invention date of the '041 patent.

An inventor can abandon his right to patent his invention either actually or constructively. Volition distinguishes the two means. Actual abandonment is always intentional. Conversely,

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118 See Exhibits 139, 405, 407, 408, 411 and 413 at p. H00021.

119 See Finding of Fact B(16).

120 See Exhibit 413 at H00040.

constructive abandonment "occurs irrespective of the inventor's intention."[121]

Actual abandonment can be either express or implied.

> It is said to be 'express' when the inventor indicates by express words that he does not seek patent protection, or that he does not intend to preclude the public from availing itself freely of the benefits of his invention.[122]

Alternatively, it is implied when the inventor performs an act which demonstrates an intent to forsake patent protection for his invention, such as disclosing the invention in a patent application but not claiming it therein.[123]

By contrast, constructive abandonment is statutory. Section 102(b) of Title 35 expressly provides that an inventor, who publicly discloses his invention more than one year before the date on which he applies for a patent on it, loses his right to patent that invention. This type of abandonment is sometimes referred to as statutory forfeiture.[124]

The effect of abandonment upon the utility of a reference as pertinent prior art turns on whether the asserted reference constitutes an invention. Sound authority indicates that so long as the asserted prior art reference constitutes invention, (i.e., conceived and *reduced to practice*), its subsequent abandonment is meaningless.[125] Thus, *Deller's Walker on Patents* states that "Novelty is not generally negatived by an unsuccessful

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121 Revise and Caesar § 279.

122 Id.

123 *In re Gibbs*, 58 CCPA 901, 437 F.2d 486 (1971).

124 2 Deller's Walker on Patents § 130.

125 *Corona Co. v. Dovan Corp.*, 276 U.S. 358, 383, 48 S.Ct. 380, 72 L.Ed. 610 (1928); *White v. Fafnir Bearing Co.*, 263 F.Supp. 788, 804-5 (D.Conn.1966); *Joseph Bancroft & Sons Co. v. Brewster Finishing Co.*, 113 F.Supp. 714, 716-17 (D.N.J.1953). *Compare Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530, 534 (2d Cir. 1955), *cert. denied* 350 U.S. 911, 76 S.Ct. 193, 100 L.Ed. 799 (1955).

experiment," but that, "where an experiemtn [is] completed and [is used] sufficiently to demonstrate its practicability, . . . abandonment of its use furnishes no warrant to a patentee to claim it as its first inventor."[126]

However, this rule has one twist. Under Section 102(g), only inventions which are abandoned after the invention date of a patent-in-suit may constitute pertinent prior art. According to the Seventh Circuit, "abandonment is irrelevant unless it occurred "before the applicant's invention". The use of the pluperfect tense—'had not abandoned'—plainly refers to an abandonment which occurred 'before the applicant's invention.' "[127]

Tested against these principles, the CM-714 converter was not abandoned within the meaning of Section 102. It never was constructively abandoned. Moreover, it was not actually abandoned until well after the invention date of the '041 patent.

The evidence does not disclose constructive abandonment of the CM-714 converter. As suggested earlier, constructive abandonment occurs by operation of Section 102(b). That statute dictates forfeiture only if the inventor has applied for a patent on his invention. Since the inventors of the CM-714 converter never applied for a patent on their invention, it follows that Section 102(b) constructive abandonment is precluded.

It also is clear that the CM-714 converter was not actually abandoned until after the invention date of the '041 patent. Both testimony and business records indicate that durability experiments were performed on the CM-714 converter well after early February, 1971.[128]

On the basis of the foregoing review, the CM-714 converter clearly constitutes pertinent prior art. As was established earlier, the '041 patent was invented in early February, 1971. By contrast, the CM-714 converter was invented and publicly

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126 1 Deller's Walker on Patents § 69, p. 325-26 (1964).

127 *Allen v. W. H. Brady Co.*, 508 F.2d 64, 67 (7th Cir. 1974).

128 See Finding of Fact B(21).

disclosed[129] no later than January 7, 1971. Accordingly, the CM-714 converter constitutes pertinent prior art under Sections 102(a) and 102(g).

3) *Differences Between the Pertinent Prior Art and the Disputed Claims of the '041 Patent*

The third factual inquiry which must be made in order to determine the validity of a patent-in-suit is whether differences exist between the pertinent prior art and the disputed claims of the patent-in-suit. Rephrasing the inquiry in terms of the elements disclosed by the disputed claims of the '041 patent, this Court must determine whether any of the eight pertinent prior art references teach: 1) extension of the retainer plates into the inlet portion of the housing plates so that incoming exhaust gas will be directed over three plates and under one plate, as well as extension of the retainer plates into the outlet portion of the housing plates so that outgoing exhaust gas will be directed over one plate and under three plates; 2) extension of the outboard flanges on the retainer plates longitudinally and laterally so that, together with the outboard flanges of the housing plates, a four-layer edge is formed around the entire periphery of the converter; 3) construction of the retainer plates and housing plates so that they "are substantially juxtaposed in the vertical direction immediately inboard their peripheries;" or 4) canting the retainer plates so that the catalyst bed is closer to the top housing plate at the outlet end of the converter than it is at the inlet end of the converter.[130] The teachings of each pertinent prior art reference will be analyzed separately.

The CM-714 converter[131] teaches two of the elements disclosed by the disputed claims of the '041 patent. First of all,

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129 See Appendix D. Although public disclosure of the CM-714 converter occurred before January 7, 1971, it did not become meaningful until that date. Accordingly, January 7, 1971 will be treated as both the invention date and the public disclosure date of the CM-714 converter.

130 Exhibit 101. See claims 5 through 8.

131 Exhibit 113.

the CM-714 converter teaches vertical extension of the housing plates and retainer plates immediately inboard of their flanges. Put otherwise, both the CM-714 converter and the '041 patent disclose two-layer vertical walls. In addition, the CM-714 converter teaches angling of the retainer plates inside the housing plates in order to ensure even distribution of entering exhaust gas.

The two remaining teachings of the '041 patent are hinted at in the CM-714 converter, even though they are not specifically taught by it. For example, only the bottom retainer plate of the CM-714 converter extends into the inlet and outlet of the converter, whereas both retainer plates have such extensions in the '041 patent. Likewise, only the flange of the bottom retainer plate in the CM-714 converter extends longitudinally and laterally to form an edge with the flanges of the housing plates, whereas both flanges of the retainer plates are sandwiched between the flanges of the housing plates in the '041 patent.

In a limited way, Fessler '142[132] also hints at, rather than teaches, creation of a four-layer periphery. Concededly, the flanges of the retainer plates in Fessler '142, like those in the '041 patent, extend into an interstice formed by the flanges of the housing plates. However, unlike the '041 patent, the retainer plate flanges of Fessler '142 do not extend longitudinally as well as laterally. Moreover, the lateral extension of the retainer plate flanges to a space between the flanges of the housing plates is not intended to permit the permanent sealing of the housing plates and retainer plates by one peripheral weld. Rather, Fessler intended that the catalyst bed remain loose so that it could adjust to temperature spikes to which the converter might be subjected.

By contrast, British '013[133] teaches, rather than hints at, sandwiching the flanges of two intermediate plates between the flanges of two housing plates in order to create "a four-layer

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132 Exhibit 421.

133 Exhibit 420.

periphery suitable for edge affixation." Concededly, the outboard flanges of the intermediate plates in British '013 do not extend to the outside edge of the outboard flanges of the housing plates. However, the flanges on the intermediate plates extend longitudinally and laterally. Moreover, they extend far enough into the interstice between the flanges of the top and bottom housing plates so that a four-layer periphery, which is suitable for edge affixation, is formed.

Fessler '236[134] teaches a different element of the '041 patent than does British '013. Like the '041 patent, the housing plates described in Fessler '236 assume a vertical orientation immediately inboard the peripheral edge which they form. Moreover, the analogy continues immediately inside the housing plates, for the peripheral wall of the catalyst bed abuts the vertical peripheral wall formed by the housing plates. Therefore, Fessler '236, like the '041 patent, teaches two-layer vertical peripheral walls.

Johnson '073[135] also teaches one of the elements disclosed by the disputed claims of the '041 patent. In his patent, Johnson calls attention to the "uniquely canted or inclined catalyst bed which takes advantage of the variations in quantitative flow through the bed as the air proceeds longitudinally over the converter".[136] Admittedly, the inventors of the '041 patent used other language to describe the slanting catalyst bed incorporated in that design. Nevertheless, in design and purpose, the techniques described by the two patents are identical.

The same teaching is disclosed in the 1963 SAE article.[137] Several diagrams of prototype downflow catalytic converters appear throughout this article. Among these, Figure 27 is particularly noteworthy. Like the '041 patent, Figure 27 also clearly depicts a downflow converter with an inclined catalyst bed.

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134 Exhibit 424.

135 Exhibit 201.

136 Id. at p. 1.

137 Exhibit 423.

Scheitlin '925[138] likewise teaches the use of an inclined catalyst bed to improve flow distribution. According to the patent's specifications, the catalyst bed is to be mounted "diagonally within the shell [i.e., housing], so that the space between the inlet wall surface and the adjacent shell wall generally progressively decreas[es] in volume and the space between the outlet wall surface of said chamber [i.e., the catalyst bed] and the adjacent shell wall generally progressively increas[es] in volume from the end of the chamber adjacent the inlet conduit to the end of the chamber adjacent the outlet conduit."[139] For practical purposes, this specification is identical to the specification in the '041 patent which describes an inclined catalyst bed.

Finally, Patterson '255[140] neither hints at nor teaches any of the disputed elements of the '041 patent. The catalyst bed in Patterson '255 is parallel to the top and bottom housing plates rather than inclined; its catalyst container plates and its housing plates form several edges rather than one; its inlet and outlet portions are formed by separate metal pieces rather than by the converter's housing and catalyst retainer plates; and the peripheral walls of its housing plates and the peripheral walls of its catalyst retainer plate are separate from one another.

In summary, the '041 patent is not simply a new combination of old elements.[141] Two-layer peripheral walls, an inclined

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138 Exhibit 425.

139 Id. at p. 1.

140 Exhibit 227.

141 A combination patent is one in which:

> [n]one of the parts referred to are new, and none are claimed as new; nor is any portion of the combination less than the whole claimed as new, or stated to produce any given result. The end in view is proposed to be accomplished by the union of all, arranged and combined together in the manner described. As this combination, composed of all the parts mentioned in the specification, and arranged with reference to other parts of the [machine] in the manner therein described, is stated to be the improvement, and is the thing patented. *Prouty v.*

catalyst bed, and a four-layer periphery suitable for welding admittedly are old in the art. The CM-714 converter, Fessler '236, Johnson '073, the SAE article, Scheitlin '925 and British '013 prove this. However, extension of the retainer plates into the inlet portion of the housing plates so that incoming exhaust gas will be directed over *three* plates and under *one* plate, as well as extension of the retainer plates into the outlet portion of the housing plates so that outgoing exhaust gas will be directed over *one* plate and under *three* plates is a totally new concept.

4) *Level of Ordinary Skill in the Pertinent Art*

The last factual inquiry that is required before the validity of the '041 patent can be determined is identification of the level of ordinary skill in the art which is pertinent to the '041 patent. This inquiry, unlike the previous ones, defines the method which an average inventor in the pertinent art would use to resolve a problem rather than data which might be important in that methodology.[142]

Determination of the level of ordinary skill in the pertinent art is a two-step process. First, ". . . the body of people who devote regular and substantial effort to solving the type of problem [that] the alleged invention solves . . ." must be identified.[143] Second, the level of skill of an ordinary member

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Ruggles, 16 Pet. 336, 341, 10 L.Ed. 985 (1842), cited in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 520-21, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972).

142 Expressed differently, identification of level of ordinary skill is comparable to identification of the variables of a formula. Alternatively, identification of the scope, content and teachings of the pertinent prior art is comparable to identification of the coefficients of those variables.

143 *Erie Technological Prod., Inc. v. Die Craft Metal Prod., Inc.*, 461 F.2d 5, 8 (7th Cir. 1972).

of that group must be determined. Each subinquiry will be treated separately.[144]

i) *Identification of Group to Which Person of Ordinary Skill Belongs*

Identifying the group of people to which the inventor of a patnt-in-suit belongs is really tantamount to identifying the scope of art which is pertinent to the subject matter of a patent-in-suit. Both inquiries have the same focus in that they seek to define concepts by isolating the problem which a patent-in-suit allegedly solves.[145]

Under this standard, only designers of techniques for *sealing* a container within a container in order to produce a specified flow should be considered in connection with the '041 patent. This conclusion is supported by the prior discussion concerning the scope of art which is pertinent to the subject matter of the '041 patent.[146] As was explained there, the chief problem confronted by the inventors of the '041 patent was how to eliminate exhaust gas bypass of the inner chamber of the converter due to leakage between the outer container of the converter and the inner container of the converter.

ii) *Determination of Skill of Member of That Group*

Assuming that the group of people to which the inventor of a patent-in-suit belongs can be identified, two types of evidence have been admitted to prove the level of skill of an ordinary member of that group. The first type of evidence consists of examples of approaches taken by practitioners, other than the inventor of the patent-in-suit, to solve the problem which the patent-in-suit allegedly solves (example

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144 *Erie, supra; Systematic Tool & Machine Co. v. Walter Kidde & Co.*, 555 F.2d 342, 352 (3d Cir. 1977).

145 See *Erie*, and notes 6-7 accompanying text *supra*.

146 See notes 8-10 and accompanying text *supra*.

evidence).[147] The second type of evidence is that which reveals the ". . . characteristics of a person of ordinary skill . . ." (character evidence).[148]

Example evidence can be divided into at least three types. First, there is evidence that others in the pertinent art failed to solve the problem which the patent-in-suit allegedly solves.[149] Second, there is evidence of divergent solutions to the problem which the patent-in-suit allegedly solves.[150] Finally, there is evidence that others solved the problem which the patent-in-suit allegedly solves at about the same time that the patent-in-suit was invented.[151]

These types of evidence are not probative of level of skill. The inquiry into level of ordinary skill focuses on identification of *how* an average practitioner in the pertinent art would reason if given a problem (i.e., the motivations, methodologies, and predispositions which an average practitioner would bring to bear on the problem). Absent this information, it would be impossible to discriminate between obvious and nonobvious inventions because there would not be a hypothetical ordinary paradigm or process to use to predict the conclusion which an ordinary practitioner would reach if he were given a problem and pertinent prior art references. By contrast, example evidence shows *what conclusion* an average practitioner would reach after applying ordinary reasoning.

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147 *Systematic Tool, supra.*

148 White, "Obviousness and the Level of Ordinary Skill," P.L.I. *1975 Patent Law Workshop,* p. 179.

149 P.L.I., *supra.*

150 *Erie Technological Prod., Inc. v. Die Craft Prod., Inc.,* 318 F.Supp. 933, 950 (N.D.Ill.1970).

151 *Shanklin Corp. v. Springfield Photo Mount Co.,* 521 F.2d 609, 618-19 (1st Cir. 1975); *International Glass Co. v. United States,* 408 F.2d 395, 187 Ct.Cl. 376 (1969); *Servo Corp. of America v. General Electric Co.,* 337 F.2d 716 (4th Cir. 1964); *Package Devices, Inc. v. Sun Ray Drug Co.,* 301 F.Supp. 768 (E.D.Pa.1969).

Put otherwise, it identifies the ultimate outcome of an obviousness inquiry rather than one of the essential factors in that inquiry.

Like example evidence, character evidence may be divided into types. The first type is evidence of general information which would have been possessed by an ordinary practitioner in the pertinent art. In this regard, inquiries into the educational background of practitioners and into the depth and breadth of their experience in the pertinent art are appropriate.[152] Alternatively, the second type of character evidence identifies the normal work activity of the ordinary practitioner at the time of invention of the patent-in-suit.[153] It is evidence of work habit or work routine.

Unlike example evidence, character evidence is highly probative of level of skill. By providing evidence of the predispositions, motivations, methodologies and work routine of practitioners in the pertinent art, character evidence enables a court to construct a hypothetical ordinary paradigm which can be used to identify obvious outcomes to problems. Thus, character evidence, as contrasted with example evidence, identifies a reasoning process rather than the outcome of that process. Accordingly, it alone will be considered.

The character evidence which was introduced suggests that an inventor of ordinary skill in the art which is pertinent to the '041 patent has two attributes. First of all, he is an automotive parts designer who is intimately familiar with general mechanical engineering techniques. In other words, he is a technologist of long experience rather than a scientist. Secondly, he knows how to design mechanical parts so that they can be produced economically and added to existing equipment without requiring modification of other parts. Accordingly, an ordinary inventor in the art which is pertinent to the '041 patent would have brought basic mechanical engineering techniques, as well

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152 *Systematic Tool, supra; Shanklin, supra; Jacobson Bros., Inc. v. United States,* 512 F.2d 1065 (Cust. & Pat.App.1975).

153 P.L.I., *supra.*

as principles of production economy, to bear upon the problem which the '041 patent allegedly solves.[154]

5) *Formulation of Conclusion of Law Concerning Obviousness of '041 Patent*

Formulation of a conclusion of law about the obviousness of the '041 patent in light of the preceding findings of fact involves four steps. First, the party who bears the burden of persuasion must be identified. Second, the amount of proof needed to carry the burden of persuasion must be identified. Third, it must be determined whether the party with the burden of persuasion has carried its burden under the technical obviousness analysis prescribed in *Graham v. John Deere*. Finally, if the outcome under the technical analysis is close, nontechnical indicia of obviousness must be examined.

i) *Identification of Party with Burden of Persuasion*

The first step in formulating a conclusion of law about the obviousness of the '041 patent is assignment of the burden of persuasion. Although identification of the party who bears the burden of persuasion is meaningless whenever the evidence clearly indicates a result, it is essential for resolution of cases in which the evidence is evenly balanced. In the latter situation, it is the party with the burden of persuasion who loses.[155]

a) *Applicable Law*

In this circuit, the plaintiff-patentee has the burden of persuasion on the validity issue in a patent infringement action.[156] Since only a valid patent can be infringed, a patentee

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154 See Finding of Fact B(4).

155 18 A.L.I. Proceedings 226.

156 *Dickstein v. Seventy Corp.*, 522 F.2d 1294 (6th Cir. 1975); *Sperberg v. Goodyear Tire & Rubber Co.*, 519 F.2d 708, 713 (6th Cir. 1975), *cert. denied* 423 U.S. 987, 96 S.Ct. 395, 46 L.Ed.303 (1976); *Deere & Co. v. Sperry Rand Corp.*, 513 F.2d 1131 (9th Cir. 1975).

implicitly asserts the validity of his patent when he sues for the infringement of it. Therefore, the patentee assumes the burden of persuasion on the validity issue because he is trying to change the status quo.[157]

b) *Application of Law to Present Case*

Under this rationale, General Motors bears the burden of persuasion. It brought the infringement action which has placed the validity of the '041 patent in question. Therefore, it has the burden to persuade the Court that a practitioner of ordinary skill in the art which is pertinent to the '041 patent would not have invented the '041 patent if he were aware of both the problem which it allegedly solves and the pertinent prior art references.

ii) *Identification of the Degree of Proof Needed to Sustain Burden of Persuasion*

The second step in formulating a conclusion of law about the obviousness of the '041 patent is identification of the amount of proof which the party bearing the burden of persuasion must adduce to meet his burden. Since a patent infringement action is a civil proceeding, the question boils down to whether the patentee must establish the validity of his patent by a preponderance of evidence or by clear and convincing evidence.

a) *Applicable Law*

This is a question of first impression. Although courts have established the amount of proof which must be adduced by the defendant in an infringement action in order to rebut a presumption of validity and thereby meet his burden of going forward,[158] they have not quantified the burden of persuasion.

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157 McCormick, *Evidence* § 337 (2d Ed.) p. 786.

158 *Chicago Rawhide Mfg. Co. v. Crane Packing Co.*, 523 F.2d 452 (7th Cir. 1975); *Jack Winter, Inc. v. Koratron Co., Inc.*, 375 F.Supp. 1 (N.D.Cal.1974).

Accordingly, any decision on this issue must rest upon policy considerations rather than upon precedent.

In the absence of precedent, the likelihood that the *type of allegation* made by the party with the burden of persuasion is true controls how much proof must be aduced to meet that burden.[159] Put more precisely, there is an inverse relationship between the likelihood that the *type of claim,* as opposed to the particular claim, which the burden-bearer is alleging is true and the degree of persuasiveness which will be demanded. Thus, if it is unlikely that a type of allegation can be supported, clear and convincing evidence will be required to meet the burden of persuasion. Conversely, if it is likely that a type of allegation can be supported or if the risk cannot be estimated, a preponderance of evidence will meet the burden of persuasion.

b) *Application of Law to Present Case*

Under this rationale, General Motors has a low burden of persuasion. Viewed collectively, validity allegations are more likely to be true than false. Unlike other types of allegations, validity allegations must withstand at least one review before they are tested in an infringement action. Moreover, that review is conducted by patent law experts. Accordingly, a patentee who brings an infringement action should have to adduce only a preponderance of evidence in order to carry his burden of persuasion on his implicit validity claim.

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159 *Milonczyk v. Farmers' Mut. Fire Ins. Co.*, 200 Wis. 255, 227 N.W. 873; *Ziegler v. Hustisford Farmers' Mut. Ins. Co.*, 238 Wis. 238, 298 N.W. 610 (1941).

Although some cases have emphasized potential personal hardship to the defendant if the plaintiff were to succeed as a determinant in assigning the requisite degree of proof, such a standard would appear inapplicable in cases in which the judgment would not affect either personal reputation or personal freedom. See *Woodby v. Immigration Ser.*, 385 U.S. 276, 87 S.Ct. 483, 17 L.Ed.2d 362 (1966).

iii) *Determination of Whether Burden of Persuasion Has Been Sustained Under Technical Obviousness Analysis*

The third step in formulating a conclusion of law about the obviousness of the '041 patent is determining whether the burden of persuasion has been met under the technical obviousness analysis prescribed in *Graham v. John Deere.*[160] Put more precisely, has General Motors established by a preponderance of the evidence that a practitioner of ordinary skill in the pertinent art would not have developed the same solution developed by the inventors of the '041 patent, if he or she were given knowledge both of the problem which the '041 patent allegedly solves and of the pertinent prior art references?

a) *Meeting of Burden of Persuasion by Meeting Burden of Going Forward—Presumption of Validity*

The first method which a patentee can use to sustain his burden of persuasion is to rely exclusively upon a rebuttable presumption of law that all issued patents are novel, useful and nonobvious.[161] The initial effect of this presumption of validity is to shift the burden of going forward on the issue of obviousness to the defendant.[162] However, if the defendant fails

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160 Since the '041 patent is not a combination patent (See note 141 and accompanying text *supra*), the Court need not determine whether the '041 produces a synergistic effect in addition to being technically nonobvious. See *Sakraida v. Ag. Pro., Inc.*, 425 U.S. 273, 96 S.Ct. 1532, 47 L.Ed.2d 784 (1976); *Anderson's-Black Rock v. Pavement Co.*, 396 U.S. 57, 90 S.Ct. 305, 24 L.Ed.2d 258 (1969).

161 Section 282 states that:

> A patent shall be presumed valid. Each claim of a patent (whether independent, in dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

162 See *Dickstein, supra; Sperberg, supra; Lorenz v. F. W. Woodworth Co.*, 305 F.2d 102, 105-06 (2d Cir. 1962).

to adduce sufficient evidence to rebut this presumption, an additional effect is to end the case in the patentee's favor.

1) *Applicable Law*

The presumption of validity is triggered very easily. It is predicated upon the assumption that patent examiners correctly perform their official duty of evaluating the patentability of inventions.[163] Therefore, a patentee only needs to establish that he has an issued patent in order to enjoy the salutary presumption of law that the patent is nonobvious.

The amount of proof which a defendant must adduce in order to rebut the presumption of validity varies directly with the quality of the pertinent prior art which was reviewed by the PTO during the prosecution of the patent-in-suit.[164] The rationale for this sliding-scale of proof is the diminished probability that the PTO's determination is correct where its information is shown to have been deficient. Thus, if the PTO reviewed all of the pertinent prior art, the defendant must introduce clear and convincing evidence of obviousness in order to rebut the presumption of validity. Alternatively, if the PTO only reviewed a portion of the pertinent prior art, the presumption of validity may be rebutted either by a preponderance of evidence suggesting obviousness or by a lesser degree of proof, depending upon the pertinency of the prior art which was not reviewed by the PTO in comparison with the prior art which was reviewed by the PTO.

2) *Application of Law to Present Case*

General Motors cannot sustain its burden of persuasion by relying exclusively upon the presumption of validity which initially attached to the '041 patent. Although this presumption

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163 9 Wigmore on Evidence § 2534.

164 *American Seating v. National Seating*, 586 F.2d 611 (6th Cir. 1978); *Tee-Pak, Inc. v. St. Regis Paper Co.*, 491 F.2d 1193, 1196 (6th Cir. 1974); *Compare Campbell v. Spectrum Automation Co.*, 513 F.2d 932 (6th Cir. 1975).

shifted the burden of going forward on the obviousness issue from General Motors to Toyota, Toyota rebutted that presumption by aducing more than a preponderance of evidence which suggests that the invention embodied in the '041 patent would have been obvious to an ordinary practitioner in the pertinent art in February, 1971.

After General Motors triggered the presumption of validity by introducing the '041 patent, Toyota assumed a very low burden of going forward with evidence of obviousness to rebut that presumption. It is apparent from the findings of fact that the PTO not only did not have all of the pertinent prior art before it during the prosecution of the '041 patent,[165] but also did not have the most pertinent prior art before it during those proceedings. Neither the CM-714 converter, nor British '013 were reviewed by the PTO.[166] Since the amount of proof needed to rebut the presumption of validity varies directly with the pertinency of the prior art reviewed by the PTO and since the most pertinent prior art was not reviewed by the PTO, it follows that Toyota only needed to adduce some evidence of obviousness to rebut the presumption of validity, rather than a preponderance of evidence of obviousness or clear and convincing evidence of obviousness.

Toyota has met this burden. Assuming that a hypothetical ordinary practitioner in the art which is pertinent to the '041 patent were presented with the problem of designing a downflow catalytic converter which would not leak exhaust gas between the inner container and the outer container of the converter, clear and convincing evidence exists that he or she would have developed the invention contained in the disputed claims of the '041 patent. First of all, the evidence establishes that the hypothetical practitioner would have applied conventional mechanical engineering techniques and product streamlining techniques in designing a catalytic converter. Secondly, the evidence establishes that he also would have been

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165 Compare Section A(2) of the Opinion and Finding of Fact B(22).

166 Compare Section A(3) of Opinion and Finding of Fact B(22).

aware that an economical and durable method for creating a chamber within a chamber is to combine two identical housing plates with two identical inner plates, all four of which form a common edge suitable for welding (British '013). Finally, the evidence establishes that he would have been aware that a rather successful method for preventing leakage between the inner container and the outer container in a downflow catalytic converter is to combine identical top and bottom housing plates, which have semicylindrical outlet and inlet extensions and which have peripheral flanges, with a bottom retainer plate, which has a semicylindrical inlet extension that mates with the semicylindrical inlet extension of the bottom housing plate and a semicylindrical outlet extension which mates with the semicylindrical outlet extension of the top housing plate and which also has a peripheral flange, and a top retainer plate which does not have extensions or a peripheral flange which extends laterally between the flanges of the other plates (CM-714). With such techniques and with such prior art references, it is easy to conclude that a person of ordinary skill in the art would have been induced by his penchant for streamlining to apply the teachings of British '013 to the CM-714 and make the top retainer plate of the CM-714 identical to the bottom retainer plate.

b) *Meeting the Burden of Persuasion with Unpresumed Evidence*

1) *Applicable Law*

Even though the defendant in an infringement action rebuts the presumption of validity which initially attached to the patent-in-suit, the patentee theoretically still can sustain his burden of persuasion. Put very simply, the patentee can prevail on the strength of unpresumed rebuttal evidence. However, this method of proof is available only when the defendant can rebut, and does rebut, the presumption of validity with less than a preponderance of evidence.

2) *Application of Law to Present Case*

General Motors cannot sustain its burden of persuasion under this theory. Although Toyota technically only had to adduce some evidence that the '041 patent is an obvious advancement over the pertinent prior art, it instead adduced clear and convincing evidence of support of that conclusion of law. By providing such a high degree of proof, Toyota not only carried its burden of going forward by rebutting the presumption of validity, but also eliminated any further possibility that General Motors could sustain its burden of persuasion.

iv) *Effect of Nontechnical Indicia of Obviousness*

The fourth step in formulating a conclusion of law about the obviousness of the '041 patent is determining whether nontechnical factors should be considered in evaluating obviousness. Put otherwise, should evidence of professional acceptance, commercial success, failure of others to produce the same invention, and simultaneous invention (secondary considerations) be considered in evaluating the obviousness of the '041 patent?

a) *Applicable Law*

The Supreme Court and the Sixth Circuit have endorsed district court reliance upon secondary considerations to determine obviousness. Unlike the technical obviousness analysis prescribed in *Graham v. John Deere,* secondary considerations are nontechnical signals of obviousness. Thus, they provide a scientifically unsophisticated judge with some very manageable criteria of obviousness.

However, secondary considerations may not be used in all cases. In the Sixth Circuit, they may be considered only if the outcome under the technical obviousness analysis is in doubt. Thus, "(a)lthough in a close case secondary factors may tip the scales toward patent validity, they cannot save a patent from invalidity when . . . obviousness is clear."[167]

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167 *American Seating, supra* at 662.

b) *Application of Law to Present Case*

Secondary considerations need not be taken into account in the present case. The similarity between the pertinent prior art and the '041 patent leaves very little room to question the conclusion that the '041 patent is invalid under the technical obviousness analysis. Therefore, evidence that Toyota copied the '041 patent, that it was unable to produce a similar invention despite equivalent effort, and that the '041 patent was commercially successful cannot save the '041 patent. By the same token, evidence that a similar invention was developed by another entity before the '041 patent was invented cannot be used to invalidate the '041 patent.[168]

B) *Unenforceability and Infringement of '041 Patent*

Invalidation of the '041 patent for obviousness eliminates any need to examine either General Motors' infringement allegations or Toyota's unenforceability contention. Circuit law reflects common sense in this regard. Since only rights raise duties, elimination of a right against infringement of an invention destroys the corresponding duty not to breach that erstwhile right.[169] Likewise, elimination of a right eliminates any need to avoid its enforcement because of the erstwhile right holder's fraudulent behavior.

III

CONCLUSIONS OF LAW

1. This Court has jurisdiction over the parties and the subject matter of this action, 28 U.S.C. § 1338(a); Ohio Rev. Code § 1307.382. Moreover, venue is proper in this District, 28 U.S.C. §§ 1391(d) and 1400(b).

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168 See Exhibit 419.

169 *Minnesota Mining and Mfg. Co. v. Norton Co.*, 280 F.Supp. 674, 694 (N.D.Ohio 1967), *aff'd* 426 F.2d 1117 (6th Cir. 1970).

2. Claims five (5) through eight (8) of the '041 patent are invalid for obviousness, 35 U.S.C. § 103.

3. Because claims five (5) through eight (8) of the '041 patent are invalid, General Motors' infringement allegations and Toyota's unenforceability allegations need not be examined, *Minnesota Mining & Manufacturing Co. v. Norton Co.*, 280 F.Supp. 674, 694 (N.D.Ohio 1967), aff'd 426 F.2d 1117 (6th Cir. 1970).

In view of the circumstances surrounding this case, each party should pay its own costs and attorneys' fees. Although Toyota has been relieved of an obligation to pay royalties to General Motors for Toyota's use of an analog of the '041 patent, it does not seem appropriate for General Motors to pay Toyota for establishing a right to use General Motors' work-product. Such a result would be inequitable.[170]

Appendices to Follow

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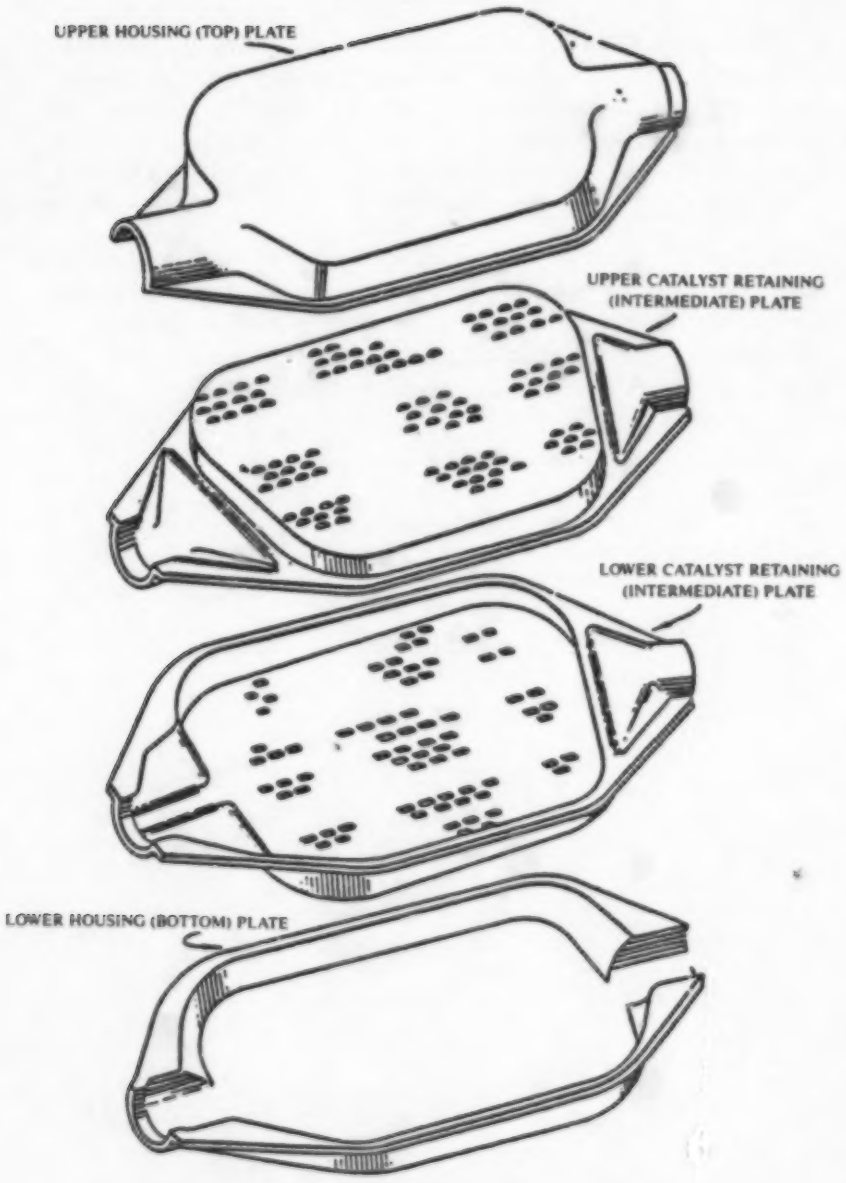
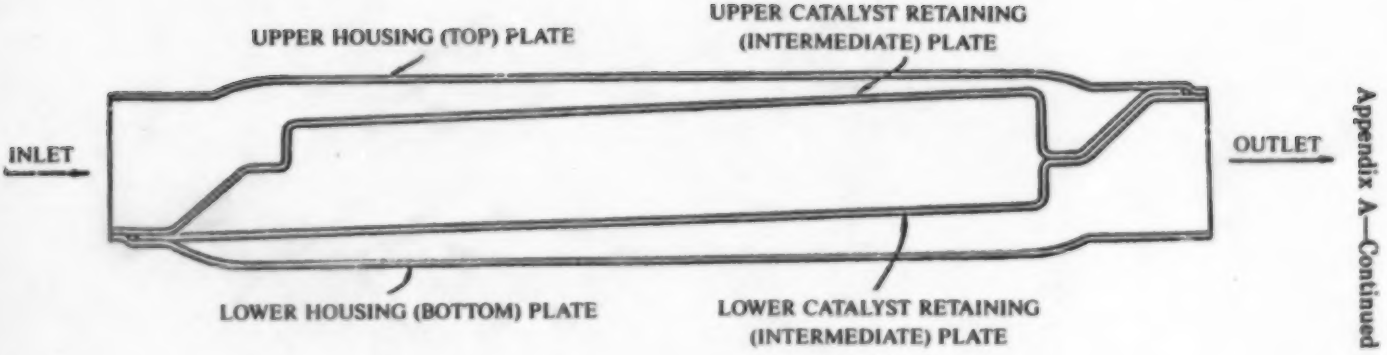
170 *Lichter Foundation, Inc. v. Welch*, 269 F.2d 142 (6th Cir. 1959).

Appendix A



RELEVANT ELEMENTS OF PATENTED CONVERTER

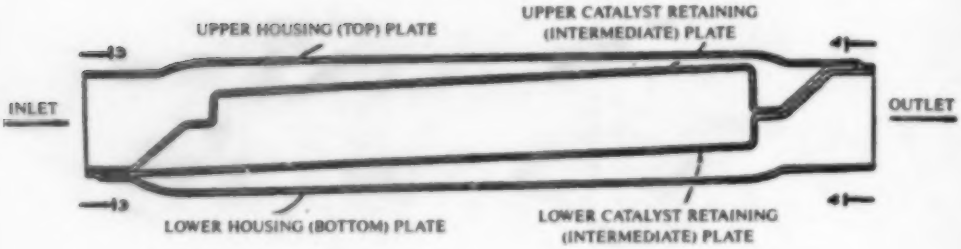


RELEVANT ELEMENTS OF PATENTED CONVERTER

Appendix A—Continued

PLAN VIEW

CROSS-SECTION ON 2-2



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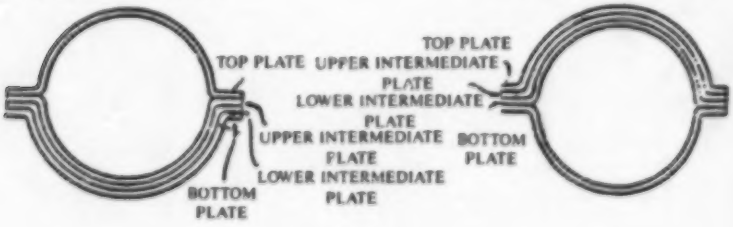
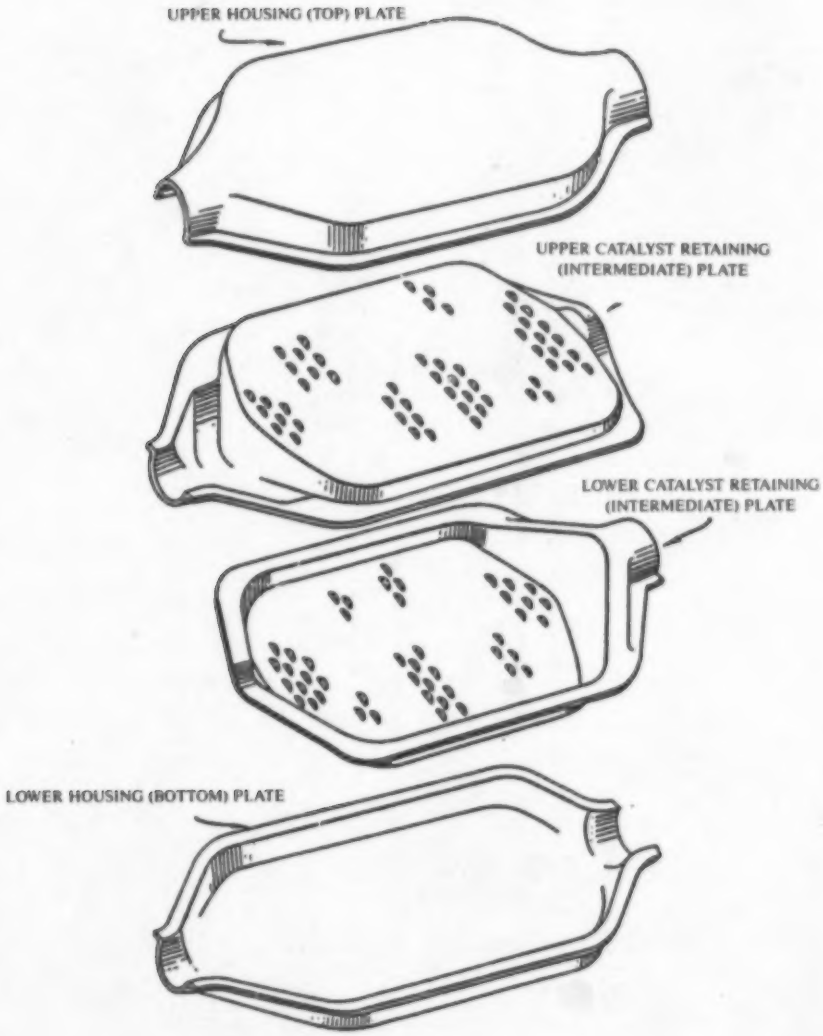
OUTLET END ON 4-4

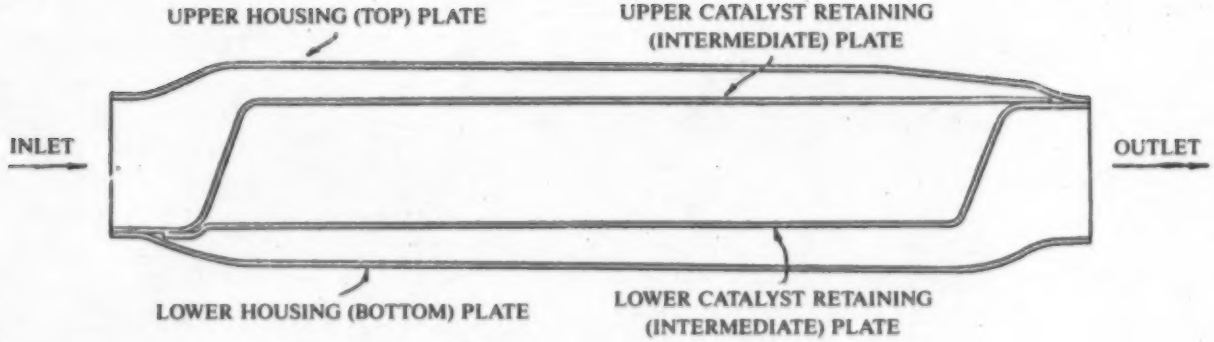


RELEVANT ELEMENTS OF PATENTED CONVERTER

Appendix B



RELEVANT ELEMENTS OF TOYOTA CONVERTER



RELEVANT ELEMENTS OF TOYOTA CONVERTER

Appendix B—Continued

PLAN VIEW

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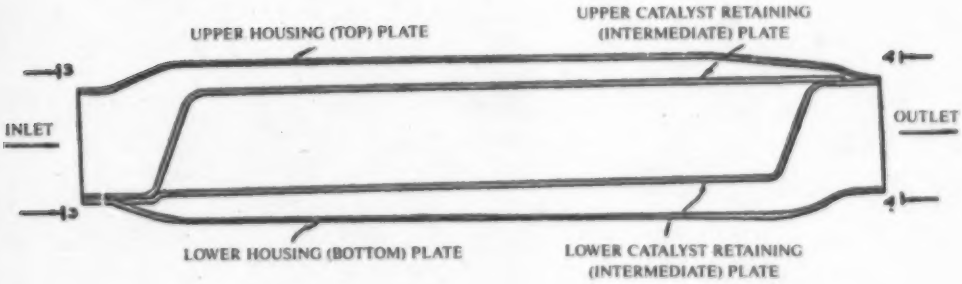

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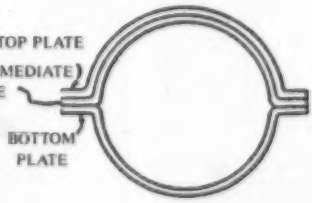

RELEVANT ELEMENTS OF TOYOTA CONVERTER

Appendix C_1

Possible Scenarios Under Subdivisions a, b, e, and g of Section 102, Where the Asserted Reference Is a Patent or Patent Application

	Invention Date of Patent-in-Suit	Application Date of Patent-in-Suit	Issuance Date of Patent-in-Suit
1	1*, 2**, 3***		
2	1, 2	3	
3	1, 2		3
4	1, 2		3
5	1, 2		
6	1	2, 3	
7	1	2	3
8	1	2	3
9	1	2	
10	1		2, 3
11	1		2 3
12	1		2
13	1		2, 3
14	1		2
15		1, 2, 3	

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* This numeral signifies the invention date of the reference patent.

** This numeral signifies the application date of the reference patent.

*** This numeral signifies the issuance date of the reference patent.

Example: Row one (1) describes a reference patent which was invented, applied for and issued before the invention date of the patent-in-suit.

Appendix C_2

Possible Scenarios Under Subdivisions a, b and g of Section 102 Where the Asserted Reference Is Not a Patent or Patent Application

	Invention Date of Patent-in-Suit	Application Date of Patent-in-Suit	Issuance Date of Patent-in-Suit
1	1*, 3**		
2	1	3	
3	1		3
4	1		3
5	1		
6		1, 3	

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* This numeral signifies the invention date of a reference other than a patent.

** This numeral signifies the public disclosure date of a reference other than a patent.

Example: Row one (1) describes a reference which was invented and publicly disclosed before the invention date of the patent-in-suit.

Appendix D

Chronological Description of Prior Art Which Is Pertinent to the '041 Patent

	Invention Date of '041 Patent (2/7/71)	Application Date of '041 Patent (9/7/71)	Issuance Date of '041 Patent (12/3/74)
Patterson '225	1 (?)* 2 (5/19/70)**		3 (10/26/71)***
Fessler '142	1 (?) 2 (9/22/69)	3 (8/17/71)	
Fessler '236	1 (?)	2 (2/19/71)	3 (11/7/72)
Scheitlin '925	1 (?) 2 (9/14/61) 3 (9/22/64)		
British '013	1 (?) 2 (1/8/48)		3 (11/15/49)
SAE Article	1 (?) 3 (3/12/62)		
Johnson '073	1 (?) 2 (8/12/60) 3 (8/25/64)		
CM-714	1 (1/7/71) 3 (1/7/71)		

* This numeral signifies the invention date of the reference.

** This numeral signifies the application date of the reference patent.

*** This numeral signifies the issuance date of the reference patent or the publication date of references other than patents.

United States Constitution, Article I, Section 8, Clause 8

Section 8, Clause 8. Patents and copyrights

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;

35 U.S.C. § 102(g)

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless—

* * *

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

General Motors Record of Invention for the CM-714* Catalytic Converter, DX 257

PATENT SECTION
GENERAL MOTORS CORPORATION

RECORD OF INVENTION

DIVISION: AC Spark Plug

DIVISION FILE NO. ACSP-2788

SUBJECT: Catalytic Converter

Please Print or Type

Inventor Andrew (First Name) Frank (Full Middle Name) Banyas (Last Name) Citizen of U.S.A.

Home Address 10216 East Potter Road, (Street) Davison, MI (City and State) 48423 (Zip Code)

Inventor John (First Name) Ingemar (Full Middle Name) Jalbing (Last Name) Citizen of Sweden

Home Address 8517 Arbela Road, (Street) Millington, MI (City and State) 48746 (Zip Code)

Inventor _____ (First Name Full Middle Name Last Name) Citizen of _____

Home Address _____ (Street) _____ (City and State) _____ (Zip Code)

FOSTER EXHIBIT #80
F.A.T.
4/29/77

(over)

DEFENDANT'S EXHIBIT 257

Today's Inventions Are Tomorrow's Products

* The form refers to drawings numbered CM-6498096 rather than CM-714. This is because by that time production type drawings had already been prepared which used a different numbering system. The converter designated CM-6498096 was the same as the CM-714 converter. (See Tr. 705-709).

RECORD OF INVENTION (continued)

1. This invention is disclosed in the accompanying sketches, drawings, and/or technical reports, numbered or identified as CM-6498096 and details and in the accompanying ____ sheets of written description.

NOTE: THE ACCOMPANYING DOCUMENTATION SHOULD BE DATED AND SIGNED BY THE INVENTOR(S) AND TWO WITNESSES WHO UNDERSTAND THE INVENTION.

2. It was first thought of by the undersigned on 6-18, 1970

3. First sketches or drawings were made by S. Papes, J. Yaklin on 6-18, 1970

4. First written description was made by J. Jalbing on 7-27, 1970

5. It was first disclosed to M. J. Foster on ___, 19__

6. It was first tried out by ____ on ___, 19__

7. This invention was released or is scheduled to be released on ___, 19__ for production starting on ___, 19__

8. In addition to those identified above, the following people can also testify to facts relating to the making of this invention: J. Chipman and L. Patterson

9. Closest prior art, as far as known, is: CM-387 CM-474 S/N-38,771

10. Principal advantages of this invention are believed to be: reduced cost

11. This invention was made while working on Government Contract No. ---- or Purchase Order No. ---- thereunder.

This invention was reviewed and understood by me:

[s] MICHAEL R. FOSTER	9-4-70
WITNESS	DATE
[s] JAMES A. CHIPMAN	9-4-70
WITNESS	DATE

INVENTORS' SIGNATURES:

[s] ANDREW F. BANYAS	9-2-70
INVENTOR	DATE
[s] JOHN I. JALBING	9/3/70
INVENTOR	DATE
INVENTOR	DATE

RECORD OF INVENTION (contd.)

Re: Catalytic Converter CM-6498096

This converter, designed for automotive use, is a unitized, throwaway, downflow type designed for a minimum number of parts. The converter is intended to be replaced by a complete new unit as the catalyst service life is expended.

This invention was reviewed and understood by me:

[s] MICHAEL R. FOSTER 9-4-70
(witness) (date)

[s] JAMES A. CHIPMAN 9-4-70
(witness) (date)

Inventor's Signature

[s] ANDREW F. BANYAS 9-2-70
(date)

[s] JOHN I. JALBING 9/3/70
(date)

General Motors Record of Invention for the Patented CM-1090 Catalytic Converter, DX 270

PATENT SECTION
GENERAL MOTORS CORPORATION

RECORD OF INVENTION

DIVISION: AC SPARK PLUG

DIVISION FILE NO. ACSP-2705

SUBJECT: CATALYTIC CONVERTER

CM-6498158

Please Print or Type

Inventor Albert (First Name) James (Full Middle Name) Moore (Last Name) Citizen of U.S.A.

Home Address 315 E. Salem Court (Street), Davison, Michigan (City and State) 48423 (Zip Code)

Inventor James (First Name) A. (Full Middle Name) Haggart, Jr. (Last Name) Citizen of U.S.A.

Home Address 2205 Holly Tree Drive (Street), Davison, Michigan (City and State) 48423 (Zip Code)

Inventor Michael (First Name) Ralph (Full Middle Name) Foster (Last Name) Citizen of U.S.A.

Home Address 8020 Pontiac Street (Street), Goodrich, Michigan (City and State) 48438 (Zip Code)

FOSTER EXHIBIT #164
F.A.T.
5/3/77

(over)
DEFENDANT'S
EXHIBIT
270

Rev. 3-71 Today's Inventions Are Tomorrow's Products

RECORD OF INVENTION (continued)

1. This invention is disclosed in the accompanying sketches, drawings, and/or technical reports, numbered or identified as 6498158 Assembly—6498187 Basic and in the accompanying _____ sheets of written description.

NOTE: THE ACCOMPANYING DOCUMENTATION SHOULD BE DATED AND SIGNED BY THE INVENTOR(S) AND TWO WITNESSES WHO UNDERSTAND THE INVENTION.

2. It was first thought of by the undersigned on 10-12 , 19 70
3. First sketches or drawings were made by J. Moore on 10-21 , 19 70
4. First written description was made by M. Foster on 5-11 , 19 71
5. It was first disclosed to L. E. Patterson on 10-19 , 19 70
6. It was first tried out by F. Hartley on 2-16 , 19 71
7. This invention was released or is scheduled to be released on ____ , 19 __
8. In addition to those identified above, the following people can also testify to facts relating to the making of this invention: J. A. Chipman and J. I. Jalbing
9. First expected (or first) publication or disclosure to outsiders: 3/11/71 through 5/12/71. to Public display Radio City Music Hall, N.Y., N.Y.
   DATE
10. Closest prior art, as far as known, is: CM-714—Ref. A 15,069

11. Principal advantages of this invention are believed to be: Structural Integrity, Performance, Manufacturing ease, Over-temperature Protection.

12. This invention was made while working on Government Contract No. None or Purchase Order None No. thereunder.

This invention was reviewed and understood by me:

[s] JOHN I. JALBING	5/18/71
WITNESS	DATE
[s] FREDERICK J. HARTLEY	5/19/71
WITNESS	DATE

INVENTORS' SIGNATURES:

[s] ALBERT JAMES MOORE	5/18/71
INVENTOR	DATE
[s] JAMES A. HAGGART, JR.	5-18-71
INVENTOR	DATE
[s] MICHAEL R. FOSTER	5-18-71
INVENTOR	DATE

Features—CM-6498158

1. Structural Integrity

   A. Domed sheet metal to withstand internal temperature and pressure.

   B. Studs and reinforcing washers used to strengthen shell and element.

   C. All main stampings welded at one time by electron beam from the outside insuring an absolute internal and external seal.

   D. Extrusion of shells through reinforcing washers allow single pass sealing of joint.

2. Performance Features

   A. *Down flow* catalyst bed provides best environment for long catalyst life as it minimizes catalyst movement.

   B. *Slant* catalyst bed provides best distribution of gases for even flow.

   C. *Air gap* between element and shell at all points except at studs and split seam for uniform and fast catalyst warm-up.

   D. *Floor pan* protection provided by insulation and cover crimped in place.

3. Manufacturing Features

   A. Top and bottom shell and element are identical for die savings, reduced parts inventory, etc.

   B. Element filled through a large hole located at the top of a slanting chamber without internal baffles for fast complete filling.

4. Over-temperature Protection

   A dilatometer type (rod and tube) temperature switch is located in the catalyst bed, but protected from direct catalyst contact by a perforated tube which also prevents loss of catalyst during shipping and switch replacement. This switch is intended to either warn the driver and/or actuate a by-pass valve to protect the converter against over-temperature.

NOTE:

A portion of the previously listed features were available in design CM-714 submitted under A-15,069. These features are 1B, 1D, 2A, 2B, 2C, 2D, and 3B listed above. Design CM-714 was first sold to outsiders 11-10-70 (International Harvester) and disclosed on Detroit television 9-17-70 by E. Nelson, Tech Center, and by Mr. Cole on 11-17-70 at his presentation to the American Petroleum Institute.

List of Toyota Subsidiaries and Affiliates

The following companies are subsidiaries and/or affiliates of Toyota in the United States:

Toyota Technical Center, U.S.A., Inc.
Calty Design Research, Inc.
Toyota Industrial Trucks, U.S.A., Inc.
T.R.D. U.S.A., Inc.

The following companies are subsidiaries and/or affiliates of Toyota in Japan:

Tokyo Toyota Jidosha Kabushiki Kaisha
Shizuoka Toyota Jidosha Kabushiki Kaisha
Tokyo Toyopet Kabushiki Kaisha
Osaka Toyopet Kabushiki Kaisha
Fukuoka Toyopet Kabushiki Kaisha
Toyota Corolla Doto Kabushiki Kaisha
Toyota Corolla Miyagi Kabushiki Kaisha
Toyota Tokyo Corolla Kabushiki Kaisha
Toyota Shin Tokyo Corolla Kabushiki Kaisha
Toyota Nishi Tokyo Corolla Kabushiki Kaisha
Toyota Corolla Ishikawa Kabushiki Kaisha
Toyota Auto Asahikawa Kabushiki Kaisha
Toyota Auto Minami Sapporo Kabushiki Kaisha
Toyota Auto Muroran Kabushiki Kaisha
Toyota Auto Sendai Kabushiki Kaisha
Toyota Tokyo Auto Kabushiki Kaisha
Toyota Minami Tokyo Auto Kabushiki Kaisha
Toyota Vista Hakodate Kabushiki Kaisha
Toyota Vista Tokyo Kabushiki Kaisha
Tokyo Toyota Forklift Kabushiki Kaisha
Shizuoka Toyota Forklift Kabushiki Kaisha
Keizi Toyota Forklift Kabushiki Kaisha
Toyota Buhin Asahikawa Kyohan Kabushiki Kaisha
Toyota Buhin Sapporo Kyohan Kabushiki Kaisha
Toyota Buhin Miyagi Kyohan Kabushiki Kaisha

Toyota Buhin Tokyo Kyohan Kabushiki Kaisha
Toyota Buhin Shizuoka Kyohan Kabushiki Kaisha
Toyota Buhin Osaka Kyohan Kabushiki Kaisha
Toyota Buhin Fukuoka Kyohan Kabushiki Kaisha
Kabushiki Kaisha Toyota Rent-Lease Shin Sapporo
Kabushiki Kaisha Toyota Rent-Lease Tokyo
Kabushiki Kaisha Toyota Tokyo Kyoiku Center
Kabushiki Kaisha Toyota Nagoya Kyoiku Center
Kabushiki Kaisha Toyopet Service Center
Kabushiki Kaisha Toyota Osaka Service Center
Shinwa Kensetsu Kabushiki Kaisha
Kyokuto Seisa Kabushiki Kaisha
Kabushiki Kaisha Nanbokusha
Tokyo Toyota Kogyo Kabushiki Kaisha
Kabushiki Kaisha Howa Seibi
Shizuoka Toyota Kogyo Kabushiki Kaisha
Daiichi Toyopet Kabushiki Kaisha
Kabushiki Kaisha Checker-Cab
Too Toyopet Hanbai Kabushiki Kaisha
Tokyo Kucho Service Kabushiki Kaisha
Toyopet Yuso Kabushiki Kaisha
Nitto Toyopet Kabushiki Kaisha
New Friend-Trading Kabushiki Kaisha
Kabushiki Kaisha Pet
Osaka Toyopet Seibi Kabushiki Kaisha
Osaka Toyopet Yuso Kabushiki Kaisha
Toyopet Syoji Kabushiki Kaisha
Fukuho Hoken Syoji Kabushiki Kaisha
Toyota Rent-Lease Hakata Kabushiki Kaisha
Toyota Tokyo Auto Yuso Kabushiki Kaisha
Futaba Kogyo Kabushiki Kaisha
Kabushiki Kaisha T.S.C. Service
Kabushiki Kaisha Nanboku Ad Creating
Refreshing-Business Kabushiki Kaisha
Kyoho Machine Works, Ltd.
Yotaka Seimitsu Kogyo, Ltd.
Toyota Jutaku Kabushiki Kaisha
Arakawa Auto Body Co., Ltd.

Central Motor Wheel Co., Ltd.
Taiho Kogyo Co., Ltd.
Toyoda Gosei Co., Ltd.
Kabushiki Kaisha Toyota Rent-Lease Miyagi
Kabushiki Kaisha Toyota Rent-Lease Ishikawa
Kabushiki Kaisha Toyota Rent-Lease Osaka
Kabushiki Kaisha Toyota Rent-Lease Shin Osaka
Towa Fudosan Kabushiki Kaisha
Toyota Central Research and Development Laboratories, Incorporated
Toyota Used Car Sales Co., Ltd.
Horie Kinzoku Kogyo Kabushiki Kaisha
Toyoda Iron Works Co., Ltd.
Cataler Industrial Co., Ltd.
Central Jidosha Kabushiki Kaisha
Aichi Rikuun Kabushiki Kaisha
Toyoda Kakoh Kaisha, Limited
Toyota Soken Co., Ltd.
Aisin Keikinzoku Co., Ltd.
Takaoka Industrial Co., Ltd.
Kyowa Leather Kabushiki Kaisha
Gifu Shatai Kabushiki Kaisha
Fujitsu Ten Limited
Toyoda Metal Scrap Limited
Hosei Brake Industory Co., Ltd.
Jeco Co., Ltd.
Kyosandenki Co., Ltd.
Tsuda Industries Co., Ltd.
Aisan Industry Co., Ltd.
Toyoda Steel Center Limited
Trinity Kogyo Kabushiki Kaisha
Nippon Soken, Inc.
Tokai Rika Co., Ltd.
Toyotomi Kiko Kabushiki Kaisha
Chuo Spring Co., Ltd.
Koyo Seiko Co., Ltd.
Omoteya Sekiyu Kabushiki Kaisha
Koito Manufacturing Company Limited

Aisin-Warner Limited
Takashimaya Nippatsu Kogyo Co., Ltd.
Toyota Kyoei Service Co., Ltd.
Toyoda Automatic Loom Warks, Ltd.
Aichi Steel Works, Limited
Toyoda Machine Works, Ltd.
Toyota Auto Body Co., Ltd.
Toyota Tsusho Kaisha, Limited
Aisin Seiki Co., Ltd.
Nippondenso Co., Ltd.
Toyota Motor Sales Co., Ltd.
Kanto Auto Works, Ltd.
Yamagata Toyopet Kabushiki Kaisha
Nagoya Toyota Diesel Kabushiki Kaisha
Toyota Corolla Kyoto Kabushiki Kaisha
Toyota Corolla Fukuoka Kabushiki Kaisha
Toyota Buhin Kitami Kyohan Kabushiki Kaisha
Toyota Buhin Iwate Kyohan Kabushiki Kaisha
Toyota Buhin Ibaragi Kyohan Kabushiki Kaisha
Toyota Buhin Tochigi Kyohan Kabushiki Kaisha
Toyota Buhin Gunma Kyohan Kabushiki Kaisha
Toyota Buhin Saitama Kyohan Kabushiki Kaisha
Toyota Buhin Kanagawa Kyohan Kabushiki Kaisha
Toyota Buhin Fukui Kyohan Kabushiki Kaisha
Toyota Buhin Gifu Kyohan Kabushiki Kaisha
Toyota Buhin Aichi Kyohan Kabushiki Kaisha
Toyota Buhin Mie Kyohan Kabushiki Kaisha
Toyota Buhin Shiga Kyohan Kabushiki Kaisha
Toyota Buhin Kyoto Kyohan Kabushiki Kaisha
Toyota Buhin Hyogo Kyohan Kabushiki Kaisha
Toyota Buhin Nara Kyohan Kabushiki Kaisha
Toyota Buhin Okayama Kyohan Kabushiki Kaisha
Toyota Buhin Hiroshima Kyohan Kabushiki Kaisha
Toyota Buhin Ehime Kyohan Kabushiki Kaisha
Toyota Buhin Kochi Kyohan Kabushiki Kaisha
Toyota Buhin Miyazaki Kyohan Kabushiki Kaisha
Toyota Chuko Jidosha Hanbai Kabushiki Kaisha
Toyota Jidosha Kogyo Kabushiki Kaisha

Kanto Jidosha Kogyo Kabushiki Kaisha
Chiyoda Kasai Kaijo Hoken Kabushiki Kaisha
Japan-Indonesia Oil Kabushiki Kaisha
Nihon Chemical Kogyo Kabushiki Kaisha
Tokai Contener Kabushiki Kaisha
Tomei Crown Kaihatsu Kabushiki Kaisha
Toyota Yuso Kabushiki Kaisha
Aichi Rikuun Kabushiki Kaisha
Toyofuji Kaiun Kabushiki Kaisha
Toyota Vista Kita Osaka Kabushiki Kaisha
Toyota Vista Fukuoka Kabushiki Kaisha

Opposition

Office - Supreme Court, U.S.
FILED
MAR 17 1982
ALEXANDER L. STEVAS,
CLERK

No. 81-1616

In the Supreme Court of the United States

OCTOBER TERM, 1981

TOYOTA MOTOR COMPANY, LTD., TOYOTA MOTOR SALES COMPANY, LTD., AND MID-EASTERN TOYOTA DISTRIBUTORS, INC.,
Petitioners,

vs.

GENERAL MOTORS CORPORATION,
Respondent.

BRIEF OF RESPONDENT IN OPPOSITION TO PETITION FOR CERTIORARI

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No. 81-1616

In the Supreme Court of the United States

OCTOBER TERM, 1981

TOYOTA MOTOR COMPANY, LTD., TOYOTA MOTOR SALES COMPANY, LTD., AND MID-EASTERN TOYOTA DISTRIBUTORS, INC.,
Petitioners,

vs.

GENERAL MOTORS CORPORATION,
Respondent.

BRIEF OF RESPONDENT IN OPPOSITION TO PETITION FOR CERTIORARI[a]

This is an ordinary patent infringement case involving issues of joint invention. Issue was joined at trial, decisive fact findings were made, and the court below properly decided the case by application of settled law to the facts.

[a] General Motors Corporation is the sole Plaintiff herein. Its Rule 28.1 statement is in the addendum to this brief.

COUNTERSTATEMENT OF THE CASE

Five individuals are here involved — Moore, Haggart, Foster, Banyas and Jalbing. All were employed by GM in Flint, Michigan, where they worked with the container group on the catalytic converter research and development project. The end product was the CM-1090 converter shown, described, and claimed in the patent here in suit. This converter satisfied the severe requirements of a production catalytic converter for automobile use, and has been used with minor modifications in GM passenger cars since 1975.

The first step leading to the patented converter was a concept drawing prepared by the joint inventor Moore. FF B9, App. 16a. It was labeled CM-474. The most distinctive feature of CM-474 was locating the catalyst inside an outer housing and between upper and lower catalyst retaining plates, the upper plate having an upwardly concave semicircular extension in the upstream direction and a downwardly concave semicircular extension in the downstream direction. FF B10, App. 17a. There is no contention that this feature was then in the prior art, or that it was not the genesis of GM's successful and patented CM-1090 converter. No model was made of the CM-474. FF B11, App. 17a. The first use of the extended catalyst retainer plate feature was in the subsequently constructed, tested, and abandoned GM CM-714 converter. FF B13, App. 17a; FF B21, App. 19a. CM-714 was derived from Moore's CM-474 by Banyas and Jalbing, who are not named inventors on the patent here in suit. FF B12, App. 17a; App. 5a.

The successful, patented, CM-1090 converter was achieved when Moore, jointly with Haggart and Foster, perfected the extended catalyst retainer plate concept. FF B18, App. 19a. The trial court properly found that the CM-1090 "had production advantages and some performance characteristics

that were unmatched by the CM-714 converter" of the immediately preceding unsuccessful Banyas and Jalbing attempt. FF B18, App. 19a. Further, in relation to a variety of prior items, including the CM-714, the trial court found that the CM-1090 and "the '041 patent is not simply a new combination of old elements" but on the contrary its arrangement of the extended catalyst retaining plate was a "totally new concept". App. 55a-56a.

Toyota likewise engaged in catalytic converter research and development. But until April 17, 1972, its efforts were unsuccessful. The best converters it could make "regularly ruptured or sagged when they were subjected to high temperatures". FF C3, App. 21a. At the time, Toyota "was looking actively for a new converter design". Id. GM displayed the patented converter at the EPA hearing in Washington on April 17, 1972. Matsumoto of Toyota was in attendance. FF C4, App. 21a. He "seized this opportunity to make a detailed sketch of the General Motors' converter which he subsequently delivered to his company's converter research group in Japan". Id. Based on the sketch, and Matsumoto's oral report, Toyota made a copy of the GM converter, which was tested and proved satisfactory. FF C6, App. 22a. By June 1973 Toyota was able to report that it had solved most of the problems which it had confronted a year earlier. Id.

The Toyota converter "contained all of the essential elements of the patented converter". FF C5, App. 21a. This included the perfected and successful form of the extended catalyst retainer plate in the CM-1090 converter of the patent. The Toyota "analog" was put in production and is the accused infringement here. FF C7, App. 22a; App. 69a. The Toyota converter is depicted at App. 73a to 75a. Its utilization of the GM patented converter construction will be evident from inspection of the corresponding drawings of the GM converter at App. 70a to 72a.

Toyota contended that the intermediate, experimental, CM-714 GM converter is part of the "prior art" and that the application of 35 USC 103 should be based only on the later activity of Moore in conjunction with Haggart and Foster in perfecting Moore's earlier CM-474 conception to achieve CM-1090. The court below properly viewed the contention as no more than a defense of non-joinder of Banyas and Jalbing as coinventors on the patent application. App. 6a. It therefore turned to the settled legal principles of joint invention, applied these to the found and admitted facts, held that GM's CM-714 converter was not prior art, and determined that CM-1090 is properly patented as the joint invention of Moore, Haggart and Foster, into which Moore's earlier conception was merged and is a part.

The court below also rejected Toyota on the alternative ground that the CM-714 was a non-public, experimental, model and not a "complete invention sufficient to deprive" Moore, Haggart and Foster of the patent right to the CM-1090, App. 6a and 7a. The container group made and tested many CM-714 converters. In the end the design was abandoned. FF B21, App. 19a. It was never the subject of a patent, or a patent application; it was never disclosed in a printed publication; and it has never been incorporated in vehicles manufactured for sale.

SUMMARY OF ARGUMENT

There is no real problem of a double standard by which "corporate inventions" can lead to patents to "trivial ideas and obvious modifications", as Toyota contends. No court has countenanced any such thing. The court below most assuredly did not. The trial court found that the most distinctive feature of Moore's CM-474 concept was its use of an extended catalyst retainer plate, which was unsuccessfully carried forward in the CM-714, nonpublic, experimental model and was successfully applied in the CM-1090 patented product. FF B10 and B13, App. 17a; FF B19, App. 19a. The trial court also found that Moore's perfection of that concept in joint invention with Haggart and Foster to produce CM-1090 was a "totally new concept". App. 55a-56a. In short, both Moore's original conception and its perfection by Moore jointly with Haggart and Foster have been assessed below and each found to be substantial, not "trivial". Toyota's first and second proposed questions are speculations that do not warrant the attention of this Court.

There is no conflict with *In re Bass*, 474 F(2d) 1276 (CCPA, 1973). In that case an additional patent was sought after patents had been previously obtained. The factor of multiple patents was clearly controlling and is not present here. The CCPA has itself noted that the *Bass* decision is limited to its specific facts. *App. of Bulloch* et al, 604 F(2d) 1362, 1366 (fn. 11) (1979) and *In re Clemens*, 622 F(2d) 1029, 1038 (1980).

The ruling below against Toyota is fully supported by the alternative ground that the CM-714 converter was a nonpublic, experimental model, not a completed invention. Further, if Toyota's contentions are accepted, 35 USC 102(g) would be construed to favor invention in foreign countries in

relation to the activities of inventors in the United States — a result Congress surely did not intend.

The writ should be denied.

Proposed Questions 1 and 2 Are Toyota Speculations Not Applicable to This Case

The determination of properly named joint inventors on the patent and the determination of lack of completed invention in CM-714 are each alone decisive in this case. Toyota nevertheless ignores these determinations and now says that the ruling below creates "a 'corporate patent' which Congress has repeatedly failed to enact" and that "many 'corporate patents' will be issued for trivial ideas and obvious modifications". Questions Presented, Nos. 1 and 2.

This case involves no "corporate patent". The application was executed by the joint inventors Moore, Haggart, and Foster, pursuant to 35 USC 116. The patent issued in their names as joint inventors. GM followed the patent assignment provisions that have been in the patent statutes since 1793, under which Congress has authorized the assignment of patents, and has provided that the assignee "shall thereafter stand in the place of the original inventor". 1 Stat. 318, 322.

To be sure, the 1966 Report of the President's Commission on the Patent System recommended a change in the law to permit direct filing by patent assignees. Report, p. 14. Also, this proposal of the Commission has been incorporated with the large number of other Commission proposals in bills which have not passed. But all of this is entirely immaterial here, even if the illogical assumption is made that failure to pass such omnibus bills can be regarded as a Congressional determination against direct filing by assignees. The same applies to the Sears law review article of five years ago. It was unwept, unhonored, and unsung until now embraced by Toyota in an effort to drum up an issue of public importance.

Petition, pp. 5, 8. The important point is that the patent here issued on an application filed by the inventors in full conformity with the patent statutes as they now are and always have been.

Toyota professes concern about "corporate patents" for "trivial ideas and obvious modifications", or for "minor obvious deviation(s)". This is sheer speculation. There is no basis to believe that the courts have or ever will permit any such thing. On the contrary, the statutes and court decisions define a settled law of joint invention where substantial contributions are made by more than one person. Such law is applicable whether or not a corporation is involved. As this case shows, the courts do require substantial contributions of the respective inventors to the patented joint invention.

The court below followed settled law, and was eminently correct, in requiring a strong showing of error by Toyota as to naming the inventors. App. 6a. Indeed, Congress has clearly directed that the naming of joint inventors in a case such as this is a technical matter by providing for correction of misnamed inventors in 35 USC 116 and 35 USC 256. Knowing that any such error can be corrected here, if found to exist, Toyota steadfastly avoids any reference to joint invention. But a litigant cannot change the law by ignoring it.

The trial court heard the testimony of Banyas, Foster, Moore, and others, considered the documentary evidence such as the "record of invention" forms, and found that the CM-714 converter relied upon by Toyota was derived from Moore's earlier CM-474 conception drawing. FF12, App. 17a. Thus, Moore — not Banyas or Jalbing — was entitled to credit for the extended catalyst retainer plate in CM-714. The court below confirmed this finding. App. 5a. The court below, after examining the record, has further found that "Toyota has not produced clear and convincing evidence that the contribution of the unnamed 'inventors' were any more

than improvements on Moore's concepts". App. 7a. While Toyota again presses its contentions based on the "record of invention" forms, it in effect asks this Court to reassess the factual question of what Banyas and Jalbing did on the CM-714 and to make a new fact finding contrary to the courts below.

The only remaining matter is the respective roles of Moore, Haggart, and Foster. The most distinctive feature of Moore's CM-474 was the seminal concept of extensions on the catalyst retaining plates defining, in conjunction with the housing plates, the inlet and outlet to the converter. FF B10, App. 17a. Toyota failed to achieve this concept, despite its efforts. The concept was perfected by Moore, jointly with Haggart and Foster, to make the highly successful CM-1090 converter that Toyota copied. The joint activity was significant. Even assuming the CM-714, which included Moore's CM-474 concept, to be "prior art", the trial court found that CM-1090 was "not simply a new combination of old elements", but on the contrary embodies a "totally new concept". App. 55a-56a.

These fact findings fully support the ruling below that the inventors are properly named on the patent. As both courts below observed, it is settled law that where the significant individual concept of one inventor is perfected by him in cooperation with others in significant additional steps, the first concept becomes a part of the joint invention. App. 4a. Further, no amount of talk implying that this is a contrived case can make "trivial modifications" out of the joint activity of Moore, Haggart, and Foster. It has been found to achieve a "completely new concept". There is genuine joint invention. Nothing more is or should be required where, as here, the end product was unobvious and patentable over the true prior art.

Proposed Question 3 Is Based on a Nonexistent Conflict

The alleged conflict between the ruling below and the decision in *In re Bass*, 474 F(2d) 1276 (CCPA, 1973), does not exist. In *Bass*, several already issued patents were based on

disclosures of substantially the same machine, claims to various aspects of the machine, and the ideas of individuals who worked together. Still another patent to such machine was sought. The court merely held that an additional patent could not be tacked on to the ones already issued unless it represented earlier invention or met the requirements of 35 USC 103 with respect to the inventions of the earlier patents that antedated the invention in question. The ruling on its face is limited to the situation where the earlier patents had issued. 474 F(2d) at p. 1286. Judge Lane concurred in a separate opinion that gave great emphasis to the fact of the earlier patents and stated explicitly that his ruling would be otherwise in their absence. 474 F(2d) at pp. 1306-7. The two dissenting members of the court would have permitted the patent to issue in any event.

The Court of Customs and Patent Appeals has itself repeatedly emphasized that *In re Bass* is a narrow decision, limited to its specific factual circumstances. *In re Clemens*, 622 F(2d) 1029, 1038 (1980); *App. of Bulloch*, et al, 604 F(2d) 1362, 1366 (fn. 11) (1979).

GM has not followed the overreaching tactic involved in *Bass*. The only converter which achieved the objective of production vehicle suitability was the CM-1090. GM has not received, and has not sought, any patents to earlier, deficient, experimental converters, or more than one patent to CM-1090. Needless to say, Toyota does not copy the CM-714 converter which it emphasizes so heavily. It copies the CM-1090.

In short, Toyota's proposed question 3 rests on an alleged conflict that does not exist.

The Toyota petition ignores the preference to foreign corporations in general, and Toyota in particular, that would result from the decision that Toyota seeks. Each of the three questions presented relies on the "Banyas converter" as "prior

art" under 35 USC 102(g), rather than being a matter of possible joint invention and an incomplete, nonpublic, experimental, device. But the statute applies only to inventions made "in this country". If the positions of the parties were reversed, and Moore, Haggart, Foster, Banyas and Jalbing were Toyota employees in Japan, and the same things occurred in Japan as actually occurred in Flint, Michigan, Toyota's theory of patent invalidity could not apply. CM-714 could not possibly be "prior art" because it would not be an invention made "in this country", as the statute requires. Congress surely did not intend to favor foreign inventors, or their employers, at the expense of U.S. inventors and their employers. The laws in fact favor neither, and apply the rational belief that invention, wherever it occurs, should be encouraged. Toyota's theory is not only bad law, but it is plainly contrary to any possible Congressional intention.

The court below did not concern itself with this fallacy in Toyota's application of 35 USC 102(g), since it rejected Toyota for other reasons.

CONCLUSION

The Petition should be denied.

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ADDENDUM

TITLE 35, UNITED STATES CODE

* * *

§ 116. Joint inventors

When an invention is made by two or more persons jointly, they shall apply for patent jointly and each sign the application and make the required oath, except as otherwise provided in this title.

If a joint inventor refuses to join in an application for patent or cannot be found or reached after diligent effort, the application may be made by the other inventor on behalf of himself and the omitted inventor. The Commissioner, on proof of the pertinent facts and after such notice to the omitted inventor as he prescribes, may grant a patent to the inventor making the application, subject to the same rights which the omitted inventor would have had if he had been joined. The omitted inventor may subsequently join in the application.

Whenever a person is joined in an application for patent as joint inventor through error, or a joint inventor is not included in an application through error and such error arose without any deceptive intention on his part, the Commissioner may permit the application to be amended accordingly, under such terms as he prescribes.

* * *

§ 256. Misjoinder of inventor

Whenever a patent is issued on the application of persons as joint inventors and it appears that one of such persons was not in fact a joint inventor, and that he was included as a joint inventor by error and without any deceptive intention, the Commissioner may, on application of all the parties and

assignees, with proof of the facts and such other requirements as may be imposed, issue a certificate deleting the name of the erroneously joined person from the patent.

Whenever a patent is issued and it appears that a person was a joint inventor, but was omitted by error and without deceptive intention on his part, the Commissioner may, on application of all the parties and assignees, with proof of the facts and such other requirements as may be imposed, issue a certificate adding his name to the patent as a joint inventor.

The misjoinder or nonjoinder of joint inventors shall not invalidate a patent if such error can be corrected as provided in this section. The court before which such matter is called in question may order correction of the patent on notice and hearing of all parties concerned and the Commissioner shall issue a certificate accordingly.

* * *

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless —

* * *

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

PATENT ACT OF 1793

1 STATUTES AT LARGE, 318

An Act to promote the progress of useful Arts; and to repeal the act heretofore made for that purpose.

* * *

§ 4. *And be it further enacted*, That it shall be lawful for any inventor, his executor or administrator, to assign the title and interest in the said invention, at any time, and the assignee, having recorded the said assignment in the office of the Secretary of State, shall thereafter stand in the place of the original inventor, both as to right and responsibility, and so the assignees of assigns, to any degree.

* * *

General Motors Rule 28.1 Statement

The following information is provided by General Motors Corporation pursuant to Supreme Court Rule 28.1: All U.S. and Canadian subsidiaries of General Motors Corporation are wholly owned with the exception of Motor Enterprises, Inc., which is partly owned by the U.S. Small Business Administration.

Foreign subsidiaries in which a private person could have a financial interest are as follows:

1. Fabrica Colombiana de Automotores S.A.
2. Gemeinnutzige Opel Wohnbaugesellschaft Mit Beschrankter Haftung
3. General Motors Acceptance Corporation, Nederland N.V.
4. General Motors de Colombia S.A.

5. General Motors Iran Limited
6. General Motors Kenya Limited Industrial Commercial Development Corporation
7. General Motors Korea Co., Ltd.
8. General Motors Pilipinas, Inc.
9. GM Allison Japan Limited
10. Industrija Delova Automobila, Kikinda
11. Isuzu Motors Limited
12. Isuzu Motors Finance Co., Ltd.
13. Saudi American Machinery Maintenance Company (SAMMCO)
14. Packard Electric Ireland Limited
15. RADIO FIDUCIAIRE, S.A.
16. Saehan Motor Company, Limited
17. Transfin (Proprietary) Limited

Petitioner's Reply Brief

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No. 81-1616

IN THE

Supreme Court of the United States

OCTOBER TERM, 1981

TOYOTA MOTOR COMPANY, LTD., TOYOTA MOTOR SALES COMPANY, LTD., and MID-EASTERN TOYOTA DISTRIBUTORS, INC.,

Petitioners,

—vs.—

GENERAL MOTORS CORPORATION,

Respondent.

PETITIONERS' REPLY BRIEF IN SUPPORT OF THEIR PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1981

No. 81-1616

TOYOTA MOTOR COMPANY, LTD., TOYOTA MOTOR SALES COMPANY, LTD., and MID-EASTERN TOYOTA DISTRIBUTORS, INC.,

Petitioners,

—vs.—

GENERAL MOTORS CORPORATION,

Respondent.

PETITIONERS' REPLY BRIEF IN SUPPORT OF THEIR PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

The Issue Here Is One Of Prior Art— Not Of Joint Inventorship

General Motors' (hereinafter "GM") opposition brief is itself cogent support for granting Toyota's Petition. GM's entire brief is an effort to convince this Court that the issue here is joint inventorship. It is not. The issue is whether the earlier work of one group of inventors within a corporation is prior art as against the later work of another group of inventors within the same corporation.

Toyota has never contested the fact that Foster, Haggart and Moore are properly named as the joint inventors of the CM-1090 patented converter (referred to in the Petition and hereinafter as the "Foster converter"). Further, neither Toyota nor GM have asserted that Banyas and Jalbing are joint inventors of the Foster converter. Rather, as the District Court found (App., 43a-45a), the Foster converter was invented by one group of inventors (Foster, Haggart and Moore) and the prior art CM-714 Banyas converter was invented by "another" group of inventors (Banyas, Jalbing and Moore).

It is noteworthy that the District Court made a detailed analysis of 35 U.S.C. § 102(g) in finding the Banyas converter to be prior art, yet GM evades the issue completely by now treating the two inventions as if they were one, and speaking only of joint inventorship. However, prior to this litigation, GM had always treated the Banyas converter and the Foster converter as separate and different inventions. That is why GM, *ante litem motam,* filled out two different Record of Invention forms, one for the Banyas converter (App., 81a-84a), and one for the Foster converter (App., 85a-89a), and why the inventors of the Foster converter identified the Banyas converter as the "closest prior art" known to them (App., 86a).

This is not a case where Toyota has alleged that Banyas and Jalbing were the real inventors of the patented Foster converter or should have been joined as additional coinventors of the patented Foster converter. To the contrary, they were the inventors of *only* the earlier Banyas converter. They cannot be joined as inventors of the patented Foster converter because there are two inventions not one, and the earlier inventors did not make any inventive contribution to the second invention. That is why despite postulating that GM could "correct" inventorship at any time under 35 U.S.C. §§ 116 and 256 (GM Brief, p.7), GM over the six years of this litigation has never done so. The reason is that it cannot properly do so because the Banyas converter inventors made their inventive contribution to the earlier prior art Banyas converter which is a different and earlier invention.

The problem with the Sixth Circuit decision is that it enables GM to take these two separate inventions, and by misuse of the concept of joint inventorship, turn two separate inventions into one, thus, removing the first from the body of prior art. This practice of juggling inventors is the precise reason why this Court should grant *certiorari*. If corporations are permitted to lump the inventors of two different inventions together, then they will obtain patents covering later obvious modifications of earlier work when no patent should be granted. That is precisely what happened in this case. Here, the Banyas converter was conceived and reduced to practice by one group of inventors. At a later date, the Foster converter was conceived and reduced to practice by another group of inventors. Yet the patent covering the Foster converter, which is admittedly obvious in view of the earlier Banyas converter, has been upheld because the Sixth Circuit erroneously treated two separate inventions made by two different groups of inventors, as one invention of five inventors. Corporations should not be permitted, by this joint inventorship slight of hand, to convert two inventions into one when it suits the corporate purpose. Such tactics lead to the very discriminatory and illogical results discussed in the Petition.

GM's Attempted Distinction Of *In re Bass* Is Erroneous

GM attempts to establish that the Sixth Circuit decision does not conflict with *In re Bass*, 474 F.2d 1276 (C.C.P.A. 1973), by asserting that *Bass* is only applicable where the earlier invention (in this case the Banyas converter) is also the subject of a patent. GM's alleged distinction does not withstand analysis. In *Bass*, it was the earlier *work* of the first inventor which was relied upon as prior art, not the first inventor's subsequent patent application which was too late to be prior art. The *Bass* court made this clear when it stated:

> As shown above, the *evidence* of *prior* invention in this case was not found *in the references* [i.e. the patent application] but in affidavits, admissions, and circumstances taken together with the disclosure of the refer-

> ences identifying the prior *subject matter.* (emphasis in original) 474 F.2d 1276, 1289.

The only thing that the patent application provided in *Bass* was a convenient identification of what the invention was, i.e. an identification of the subject matter. The proof of prior invention in *Bass* was provided in the same way as it was provided in this case, not by a prior patent application, but by the internal records of the corporation and the testimony of those involved. Here, those records and testimony establish an earlier conception and reduction to practice of the Banyas converter, as the District Court clearly found.*

The fact that *Bass* does not require the first invention to be the subject of a patent to be prior art, as GM contends, is further supported by the fact that the concurring opinion in *Bass* did not so interpret the majority opinion. The concurring opinion described the majority result as follows:

> The principal opinion takes the position that the term "prior art" as it is used in 35 U.S.C. § 103 should include all inventions which were made in this country before an applicant or patentee made his invention, regardless of when those inventions are made public or patent applications on them are filed, so long as those inventions are found not to have been abandoned, suppressed or concealed. 474 F.2d 1276, 1292.

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* GM argues that the Sixth Circuit also found that the Banyas converter was incomplete and not reduced to practice. However, what the Sixth Circuit found was that sales made to International Harvester and American Motors were experimental sales. Aside from the fact that this finding is erroneous, it is irrelevant to the issue of reduction to practice. An invention can be reduced to practice and still be subject to experimentation thereafter. *In re Yarn Processing Patent Validity Litigation,* 498 F.2d 271 (5th Cir. 1974), *cert. denied,* 419 U.S. 1057 (1974). Experimental sale may be a defense to public use or sale under 35 U.S.C. § 102(b), but it is irrelevant to the question of reduction to practice and what constitutes prior art under 35 U.S.C. § 102(g).

Accordingly, the conflict between *Bass* and the Sixth Circuit decision is clear. *Bass* properly treats the earlier developed inventions of one group of corporate inventors as prior art to later developed inventions of another group of corporate inventors. On the other hand, the Sixth Circuit erroneously permits the corporation to lump the two different groups of corporate inventors into one and thus eliminate the development of the first group from the body of prior art. This basic conflict in the patent law should be resolved by this Court.

35 U.S.C. § 102(g) Does Not Favor Foreign Inventors

At pages 9-10 of its brief, GM argues that the "in-house" work of its inventors should not be prior art under 35 U.S.C. § 102(g) because, since 35 U.S.C. § 102(g) only applies to inventions made "in this country," the "in-house" work of foreign inventors is not prior art. GM postures that if its "in-house" work is prior art and the "in-house" work of foreign corporations is not, that this is unfair. However, the fact that "in-house" work done abroad is not prior art is consistent with the fact that Congress has legislated that work done abroad cannot be relied upon by foreign corporations to establish an earlier date of invention for any purpose. Since foreign work cannot be used to benefit a foreign corporation, it is consistent that the same work cannot be used to its detriment. For example, if Toyota had made and used the patented converter in Japan for ten years before GM's alleged invention but had not obtained a patent or disclosed it in a publication, GM could still have obtained a U.S. patent. Similarly, if Toyota and GM were to get into an interference to determine which was first to make a particular invention, Toyota could not rely on any activities it carried out in Japan to establish an earlier date of invention. Even if Toyota had clearly made the invention first in Japan, GM would prevail in a U.S. interference proceeding. Thus, the "made in this country" language of 35 U.S.C. § 102(g) clearly favors U.S. rather than foreign corporations.

Can there be any doubt that if Toyota held the patent in suit, and had asserted it against GM, that GM would have paraded out the CM-714 Banyas converter and asserted it as an invention "made in this country" which constituted prior art under 35 U.S.C. § 102(g)? This Court should grant *certiorari* so that a corporation cannot assert its "in-house" developments as prior art against third parties while maintaining that those developments are not prior art against its own later developments. That is the unfairness of this case, not the fact that Congress has legislated that work done abroad cannot be relied upon as prior art in any fashion. What is unfair is permitting GM to call the Banyas converter prior art when its suits its purpose, and to juggle inventors and remove it from the body of prior art when its purpose is different.

Conclusion

The Petition for a Writ of Certiorari to the United States Court of Appeals for the Sixth Circuit should be granted.

Respectfully submitted,

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Amicus Brief

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IN THE
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OCTOBER TERM, 1981

TOYOTA MOTOR COMPANY, LTD.,
TOYOTA MOTOR SALES COMPANY, LTD., and
MID-EASTERN TOYOTA DISTRIBUTORS, INC.,
Petitioners,

vs.

GENERAL MOTORS CORPORATION,
Respondent.

MOTION FOR LEAVE TO FILE BRIEF AMICUS CURIAE AND BRIEF AMICUS CURIAE OF NATIONAL BUSINESS SYSTEMS, INC.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1981

No. 81-1616

TOYOTA MOTOR COMPANY, LTD.,
TOYOTA MOTOR SALES COMPANY, LTD., and
MID-EASTERN TOYOTA DISTRIBUTORS, INC.,
Petitioners,

VS.

GENERAL MOTORS CORPORATION,
Respondent.

MOTION OF NATIONAL BUSINESS SYSTEMS, INC., FOR LEAVE TO FILE BRIEF AMICUS CURIAE

Pursuant to Rule 36(1), National Business Systems, Inc., a corporation of Ontario, Canada, moves for leave to file the accompanying Brief Amicus Curiae in support of the Petition herein.

The Petitioners, Toyota Motor Company, Ltd. et al. have consented orally to the filing of this Amicus Curiae Brief. A written confirmation will be lodged with the Clerk when received. The respondent has indicated orally that it will not consent to the filing of any brief its counsel has not seen.

The proposed Brief Amicus Curiae addresses points not specifically considered in the Petition, but deemed material to its correct disposition.

It also calls attention to the February 19, 1982 decision in *Shields v. Halliburton Co.*, available subsequent to the filing of the Petition, which further illustrates the confusion in the lower courts concerning the meaning of the word "inventor" as used in the Constitution and subsequent patent laws. It therefore serves to supplement the showing in the Petition of the need for an authoritative pronouncement from this Court on this issue which materially also affects the administration of the patent system.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1981

No. 81-1616

TOYOTA MOTOR COMPANY, LTD.,
TOYOTA MOTOR SALES COMPANY, LTD., and
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vs.

GENERAL MOTORS CORPORATION,
Respondent.

BRIEF AMICUS CURIAE

INTEREST OF AMICUS

Amicus Curiae, National Business Systems, Inc. is a manufacturer of credit card imprinters. The proposed Amicus and its wholly owned subsidiary National Business Systems, Inc., a corporation of Delaware, are engaged in litigation before the United States District Court for the Northern District of Illinois in which they are accused of infringing several patents, at least one of which presents a question of invalidity based upon inventorship questions analogous to those presented in this case.

REASONS WHY THE WRIT SHOULD BE GRANTED

The decision below, in company with that in *Shields v. Halliburton*, No. 80-3729 (5th Cir., February 19, 1982) fundamentally departs from the established definition of the word "inventors" appearing in the Constitu-

tion. Each decision fundamentally holds, in effect, that it is immaterial which individual employees of a corporation are named as the inventors of a perfected device, or how much they learned from forerunner devices invented by other individual employees of the same corporation, so long as no patent was sought on any of the forerunner devices. This is tantamount to holding that the corporation constitutes the "inventors" in the constitutional sense —a position which Congress was unsuccesssfully but repeatedly urged to adopt for many years.[1]

The essential departure from established law of the school of thought typified by the decision below and the cited *Shields* case is best understood in the context of such decisions as *Stelos Co. v. Hosiery Motor-Mend Corp.*, 295 U.S. 237 (1935), *Dale Electronics Inc. v. R.C.L. Electronics, Inc.*, 488 F.2d 382, 385-387 (1st Cir., 1973) and *Timely Products, Inc. v. Arron*, 523 F.2d 288, 296-298 (2nd Cir., 1975). In each of these decisions, the evidence showed that the named inventors of the challenged patents each had derived from other inventors basic and necessary features of the claimed invention. In *Stelos* and *Timely*, in particular, the derived information constituted a cruder and less perfected embodiment of the patented invention.

In *Stelos*, the inventor of the derived information was at least arguably a third party. In *Timely*, however, the derived information came from a coworker of the patentee Arron, who was at the relevant time a business partner as well, and had himself obtained a patent on the forerunner device—and the Second Circuit held that Arron's failure to disclose these facts to the Patent Office was fraudulent. In *Dale Electronics*, the derived information was the core of the claimed invention and the court

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[1] *Inter alia*, in S. 1042, 90th Cong., 1st Sess. (1967) and its counterpart H.R. 5924, 90th Cong., 1st Sess. (1967), §§ 111, 115 and 116, and in the corresponding sections of S. 214, 94th Cong., 1st Sess. (1975) and of many intervening proposed bills.

pointed out that "the borrowing by the applicant of a sufficient body of lore to make the invention obvious bars entitlement [to a patent] under § 103", citing as authority its own decision in *General Instruments Corp. v. Hughes Aircraft Co.*, 399 F.2d 373, 384 (1st Cir., 1968) where "notebooks recording the [prior] experimental work [of others] were accepted as evidence of prior art" (488 F.2d at 386).[2]

The Sixth Circuit below and the Fifth Circuit in *Shields, supra*, effectively held that inventors *may* borrow "a sufficient body of lore to make the [patented] invention obvious" within the meaning of 35 U.S.C. § 103, so long as the borrowing is from prior inventions of fellow employees at the same corporation, which inventions were not generally publicized. The result is to write 35 U.S.C. § 102(f) and (g) out of the patent law, without benefit of Congressional approbation, for the benefit *only* of different inventors employed by the same corporate entity. Another *de facto* result is to change the generally accepted meaning of "prior art" in 35 U.S.C. § 103 for situations where one inventor entity borrows lore from another such entity within the *same* corporation.

No statutory basis exists for either of these "corporate" distinctions, nor has this Court ever advanced any premise upon which such distinctions could be validly posited.

Such "corporate" exceptions to the application of the patent laws predictably will tend to discourage early filing of patent applications covering technology that corporations are not yet ready to exploit. This, in turn, will impede the very "progress" the Constitution mandates that the patent laws must "promote". It will also

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[2] In *General Instruments*, the First Circuit found this borrowed quantum of "lore" insufficient to invalidate the patent in suit under 35 U.S.C. § 103—but its recognition that such information *is* § 103 prior art is to be contrasted with the attitudes of the Sixth Circuit below and that of the Fifth Circuit in *Shields*.

place the patent laws of the United States at loggerheads with those of other major industrial countries such as Japan, West Germany, the United Kingdom and France which have the objective of encouraging early filing by automatically awarding invention priority to the "first to file" an application covering a given invention.

CONCLUSION

Summing up, the decision below conflicts with precedent from the Court of Customs and Patent Appeals as pointed out in the Petition. It also adopts, at least by implication, constructions of 35 U.S.C. §§ 102(f), 102(g) and 103 that conflict with precedent from this Court and sister courts of appeal, including those for the First and Second Circuits. If allowed to stand, it will foster widespread confusion in the lower courts.

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